Major Energy Users Inc.

Australian Energy Market Commission

Comments on the

AEMC Draft Decision

National Electricity Amendment (Potential Generator Market Power in the NEM) Rule 2011

by

The Major Energy Users Inc

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CONTENTS Page

Executive Summary

In late 2010, the Major Energy Users Inc (MEU) submitted a rule change proposal to limit the use of economic withholding of capacity by generators to increase prices.

In response, the AEMC has instituted a process to determine whether there have been significant and sustained higher prices in the NEM than might be expected in a competitive market.

The quantitative work[1] by the AEMC shows that in the South Australian region, prices exceeded costs by nearly 20% for four years. Qualitative analysis for the reasons for this occurring is cursory, deficient and misleading and fails to substantiate why the excessive prices occurred by so much for so long.

Despite this clear evidence that there is a problem, the AEMC proposes to allow the continuation of practices which are inefficient and causing considerable welfare harm to consumers.

As the AEMC advises that it intends to use this flawed process for future examination of anti-competitive practices in the NEM, the expectation that prices could significantly exceed costs for a number of years without regulatory intervention, must have a chilling effect on downstream investment (and consumers in general) in the future.

The MEU rule change proposal reflected concerns that certain generators in the NEM have the ability and the incentive to exercise market power through the economic withdrawal of generation capacity and thereby increase the spot market prices which flow into retail contracts offered to consumers ("price spiking"). The practice of economic withholding of capacity is especially enhanced when there is a vertically integrated business that is dominant in both generation and retail, and operating in a region which has limited transmission connection to other regions.

The outcome of this ability to exercise unilateral market power has been seen in retail prices – regulated and unregulated – in South Australia which have risen substantially after each bout of price spiking and above levels that might otherwise apply in a competitive market. In particular, the welfare of consumers with retail price contracts – which can apply for up to three years or more – has suffered subsequent to the time of the actions of the generators and for a number of years.

The AEMC has used a framework to assess the impacts of the exercise of market power which is irrelevant because it does not address the fundamental issue that the rule change proposal addresses. By using its own unique framework, the AEMC has "defined away" the issue the MEU has raised.

[1] Deeper analysis shows this to be flawed and understate the extent of the problem

A legal review of the AEMC Draft Decision by Dwyer Lawyers advises that the Draft has:

- Misunderstood the purpose of the rule change proposal (to limit the harm caused by economic withholding of generator capacity)
- Failed to show how permitting the continued use of economic withholding of generator capacity contributes to the National Electricity Objective (NEO).

Further, the MEU considers that the Draft Decision has:

- Failed to address the welfare implications on consumers of economic withholding of generator capacity
- Failed to explain why the NEM does not require similar controls on economic withholding of capacity used by regulators in most other competitive electricity markets.

The MEU also sought advice from a UK based energy economics consultant Poyry Management Consulting. In discussions with the MEU, Poyry commented that:

> "There's no single solution to these problems (as evidenced by the different approaches across markets) but monitoring of behaviour and the level of scrutiny applied when you are in an ex post 'competition assessment' regime like the current NEM has to be robust and proportionate and there are too many loose ends for that to be said about this investigation [by the AEMC]."

The MEU consultant Poyry makes its case succinctly:

> "In summary, we find that:
>
> - The characteristics of the power market mean the definition of substantial market power applied by AEMC does not capture a range of actions/behaviour that can have a material detriment on consumers. No evidence has been presented to indicate that this risk does not exist in the NEM.
> - The focus on LRMC assumes that the market is contestable – but the evidence does not adequately support this conclusion, especially for SA and Tasmania. In South Australia, the CEG report indicates that there may be ongoing market power concerns. Whether these are structural, they imply that transitory pricing power may be more persistent than the AEMC methodology assumes.
> - There is insufficient evidence to support the conclusions that substantial market power does not exist. Specifically, (a) there is no evidence to determine that annual average prices are at an efficient level given underlying

market conditions; and (b) that there are no significant barriers to entry and expansion.

- CEG does not appear to have considered sector-specific advice that has been applied in other energy markets that accounts for the potential transient pricing power that exists in the power sector. We would expect that they would have reviewed the standard short-term structural indicators such as the pivotal and residual supply indices that have replaced the HHI in several aspects of market monitoring activity.

In its Draft Determination, the AEMC states that it 'considers that the assessment framework and approach adopt[ed] for this rule change request provide a framework within which market participants and other stakeholders can assess whether at any time in the future issues of substantial market power in the NEM arise'.

From our review, we cannot conclude that the framework is fit for purpose and that it meets an appropriate threshold for application." (Poyry pages 17 and 18)

The AEMC's framework and approach ignores other alternative approaches that explicitly account for the demand conditions, dynamics of electricity markets and the forward contracting markets. The Draft Decision ignores the peer review recommendations from Professors Gans and King and even expressions of concerns of its own consultants on the shortcomings of the scope and framework of the approach used.

To assist in developing its assessment of the MEU rule change proposal, the AEMC sought advice from NERA to carry out quantitative and qualitative analysis of the markets and from Competition Economists Group (CEG) to analyse barriers to entry in the electricity markets.

The MEU submission highlights that there are considerable shortcomings, and errors of logic and fact in the development of the consultant advice sought by the AEMC.

The MEU considers that the NERA quantitative and qualitative work demonstrates errors of logic and fact, such as:

- NERA analysis shows that for four years in the SA region, prices exceeded average incremental long run marginal costs by more than 18% for four years, but it considers that this supports their view that there is no problem
- NERA analysis for SA shows that the more accurate modeling (the perturbation approach) is consistently below average incremental long run marginal costs by an average of 11%, yet this is considered to support the calculations of the average incremental long run marginal costs used.

- The welfare impact of the NERA quantitative work can be tabulated as follows:

$m wealth transfer to generators	**05/06**	**06/07**	**07/08**	**08/09**	**09/10**	**10/11**
Volume TWh	12.8	13.3	13.3	13.5	13.4	13.5
Cost of contract price premium (to AIC)	86	69	101	123	(70)	(53)
Cost of contract price premium (to perturbation points)			217			(9)

- NERA was required to carry out a qualitative analysis to explain the periods when prices were excessive. It concluded that the prime cause of the excessive prices was due to high spot prices in a two week period in March 2008, which they attributed to a heat wave couple to constraints on the Victoria to SA interconnector. Deeper analysis of that period demonstrates the superficiality of the NERA qualitative analysis
- NERA carried out no comparisons of its quantitative outcomes between regions. If it had, it would have noted that a comparison with the Victorian region (which has similar weather patterns to SA but has a more competitive market) showed that the quantitative based data for SA shows considerable variations that highlight the impacts of economic withholding.
- Despite the quantitative analysis leading to an entirely different conclusion for SA, NERA advises they do not consider there is a problem that needs attention

The CEG advice is equally concerning because it clearly implies that there are probably concerns of barriers to entry in the Tasmanian and SA markets. CEG highlights:

- Evidence of considerable capacity withholding creating a reduction in capacity utilisation at high price times in the market.
- That strategic bidding by generators such as economic withholding can cause considerable harm and raise barriers to entry
- That vertical integration (such as the combining of the largest generator in a region with the largest retailer in that region as has occurred in SA) creates a dynamic that increases the barriers to entry of new and independent generation and of strategic behaviour of the dominant generator/retailer in the SA region.
- The use of the Herfindahl-Hirschman Index (HHI) as an indicator of market concentration is probably inappropriate and that other indictors should be used. Despite this qualification it draws conclusions from use of the HHI.

Despite the stated concerns, CEG then comments that as NERA advises its quantitative analysis provides no evidence of market power, CEG considers that

its concerns are outweighed by the NERA work and concludes there is no problem. This displays a circularity of logic.

Put more bluntly, both the AEMC and CEG seem to have abandoned their own analysis work based on conclusions from a flawed NERA study, on which, a fair and reasonable assessment, confirms there is a problem of sustained market power.

The Draft Decision itself relies almost exclusively on the NERA and CEG reports and arrives at the conclusion that there is no "significant and sustained problem with the efficient functioning of the market". But no robust evidence is provided in many key areas – barriers to entry, interaction between generation and retailing, the welfare impact of transient pricing power and individual generator bidding strategies. The AEMC conclusion seems to devolve almost entirely onto the NERA quantitative analysis that there is no problem and exclude concerns that might be contrary to its conclusion

Overall, the MEU considers the AEMC Draft Decision to be disappointing and disturbing. The Draft Decision effectively validates the anti-competitive activity of the exercise of transient market power by generators through the economic withholding of capacity[2] on the basis that the outcomes have not been so severe as to significantly increase prices of electricity. This ignores the AEMC's duty to further the NEO

[2] This means that the Draft Decision ignores the fact that market power can be readily abused in electricity markets for short time periods and impose significant negative welfare consequences on consumers.

1. Introductory comments

The MEU had identified that in the years of 2008, 2009 and 2010, AGL used its Torrens Island Power Station (TIPS) to offer its output at prices close to the market price cap (when certain regional conditions applied) in the knowledge that regardless of what any other generator might do, TIPS had to be dispatched. This process is known widely as “economic withdrawal of capacity” and is a form of exercising market power. The purpose of this process is for the generator to make more money through price spiking, than it would otherwise do by following merit order of dispatch.

In the early part of the NEM operations, especially in the summer of 2000/01 in Victoria and in New South Wales in 2002-05, there was economic withdrawal of capacity. However, this exercise of market power was short lived in Victoria (because of increased competition) and progressively reduced in NSW (as the Electricity Tariff Equalization Fund slowly wound down). In all cases of economic withdrawal, the generator has to control a sufficiently large proportion of the regional capacity to be able to carry out this exercise. In its report to the AEMC, the Competition Economists Group (CEG) notes that this is considered to be when a generator controls some 40% of the regional market and notes that it considers TIPS controls 37% of the SA regional market.

The Australian Energy Regulator (AER) has also identified its concerns with the exercise of market power by use of economic withdrawal of capacity in many of its recent annual reports “State of the Energy Markets” and has observed that TIPS has market power when the regional demand in South Australia (SA) reaches some 2500 MW.

A generator will only exercise its market power if, by doing so, it will increase its profitability – it is not concerned with:

- Any impact on the efficiency of the wholesale market.
- The costs incurred by consumers purchasing from the wholesale/retail markets, other than if its actions increase the price of hedging products, then this is an additional benefit
- Whether the actions increase volatility in the market or causes a reduction in market liquidity
- Whether its actions increase any barriers to entry of new generation (or reduces retail competition), although if these actions caused an increase in the barriers to entry then this would be an advantage to a vertically integrated generator/retailer as CEG observes.

All of these issues run counter to the National Electricity Objective yet the Draft Decision accepts that economic withholding is acceptable practice and should be permitted to continue, notwithstanding the issues raised by the MEU in its rule change application, and by the independent economic regulator (AER).

The combination of AGL as the dominant retailer in SA with the dominant generator in the region provided it with the enhanced opportunity for it to exercise strategic behaviour by bidding strategically, so as to increase the revenue TIPS would receive by economic withdrawal of capacity at propitious times and to drive up retail prices as well, which it also achieved.

It is generally recognized that the SA regional market of the NEM, often provides an early indicator of the emerging problems in the NEM and the issue of persistent exercise of generator market power is no exception.

The MEU has been so concerned with the AEMC Draft Decision that it commissioned an experienced energy market economic consultant (Poyry Management Consulting[3] of the UK) to review the approach taken by the AEMC (and its consultants (NERA) and the Competition Economists Group (CEG)) to arrive at the conclusion that there is no:

> "…evidence of significant and sustained problem with the efficient functioning of the market". (DD page 47)

In particular, the MEU is especially concerned that the AEMC has rejected its rule change proposal on the basis that there is a

> "…lack of evidence supporting the existence of substantial generator market power in the NEM" (DD page 3)

and therefore

> "…any rule that seeks to constrain or limit the bidding of generators … is likely to diminish incentives for efficient investment". (DD page 3)

This is against the background that as AEMC reviews are claimed to be "evidence-based", the Draft Decision itself needs to meet this professional benchmark and, also as required under section 99(2)(a)(i), for it to provide the evidence to demonstrate how the Draft Decision contributes to achieving the NEO.

This submission shows that there is a lack of evidence to support the conclusions reached by the AEMC and therefore the AEMC Draft Decision is invalid and will represent a breach of the AEMCs statutory duty to further the NEO.

1.1 The AEMC approach used to assess whether there is a problem

The AEMC Directions Paper posited that whilst there probably has been the exercise of market power by generators in the NEM, its concern was that this exercise of market power may have had little impact on the market and

[3] The credentials of the consultant and its report are appended to this submission

therefore, any reaction to address this exercise may not be warranted. Essentially, the AEMC sought to identify if there had been sufficient harm done in the NEM to warrant addressing the problem. The AEMC implied that if there was a problem of significance, then ways of mitigating its impact will be examined.

The AEMC commissioned two consultants to examine the problem identified by MEU – NERA to look at quantifying the outcomes of the operation of the market and then to identify if the problem is of sufficient magnitude to warrant action, and CEG to examine if the problem poses a threat to new entry to the market.

The approach taken by AEMC to identify if the exercise of market power was a concern is unique in economic regulation in energy markets in comparable overseas jurisdictions. Rather than looking at the issue as one of efficiency of the market (the approach most widely used), it sought advice from NERA as to the relative costs of new entrant generation against the prices charged for the provision of wholesale electricity.

NERA developed an approach to assess the relative costs and prices in June 2011 (provided as an adjunct to the AEMC Directions Paper). The AEMC also had the NERA approach "peer reviewed" by Professors Gans and King who recommended, inter alia, that any review should address other tools available for evaluation of potential market power in electricity markets. Gans/King commented:

> "While recognising the bounds of the current NERA report, in our opinion, a focus on … alternative indicators will be an important part of the further AEMC analysis. The relationship between transitory and substantial market power is more subtle in electricity markets than in many other markets, and is reflected in both the sometimes volatile nature of electricity spot prices and the fact that in some periods many generators may have temporary market power even though they clearly lack sustained, substantial market power. Alternative measures, such as the Residual Supply Index, are (imperfect) ways to try and capture this relationship." (Gans/King page 2)

Unfortunately this caution by Gans/King has been entirely overlooked by the AEMC although the MEU notes that UK consultant Poyry agrees with Gans/King and considers this is an essential aspect (in addition to other elements) that should have been Investigated and from the suite of quantitative and qualitative analyses to arrive at a conclusion which responds to the MEU concerns and its rule change proposal..

Gans/King also commented that it was important that strategic entry barriers were addressed noting that this was beyond the then NERA scope of work. To this end, it appears that the AEMC sought advice from CEG about the impacts of market power in relation to barriers to entry of new generation.

Gans/King also suggested that:

- Care is needed when assessing the relationships between forward markets and the spot market. They commented that:

  "… forward markets do not alter the existence of market power, but the interplay between forward contracts and the spot market can alter the incentives to abuse market power." Gans/King page 3).
- Care is needed by defining the generation market as a separate element. They commented:

  "…The existence of a separate generation market does not mean that the issues of generator market power can be analysed in isolation of the retail market structure. For example, if a generator is vertically integrated into retailing then its incentives to exercise market power might change. This is because it effectively has a 'forward contract' with itself." (Gans/King pages 4 and 5)

Whilst some of the work by CEG does address the second of these two issues to some extent, the first issue is overlooked.

There was widespread concern expressed by stakeholders during the consultation phase about how the NERA approach would quantify various inputs for the analysis (especially the quantification of the contract prices seen in the market) and a Technical Paper was released explaining how NERA intended to carry out the task although this did not explain in detail how it would develop the contract prices needed for the analysis. There was also support for the Gans/King view for caution with adherence to the NERA approach, without applying other quantitative and qualitative analyses.

The NERA report containing its quantifications and detailed methodology was released as part of the AEMC Draft Decision. Prior to its release, it was provided to CEG to assist in their work on assessing the impacts on barriers to entry. This seems to have provided CEG with a conundrum. The NERA analysis concluded there was no problem and CEG appears to have been obliged to accept this conclusion despite its views to the contrary.

> "[In SA we] found evidence consistent with capacity being withheld to drive up prices and that vertical integration may be creating a barrier to entry by independent non-vertically integrated generators. On the other hand, pricing evidence from the NERA/Oakley Greenwood report suggests that competition among incumbents is effective and/or barriers to entry are not significant. (CEG page 7)

The Draft Decision is primarily based on the NERA report and its conclusions that there is no problem, although the Draft Decision does comment that:

> "Regulatory intervention is only potentially justified if there is evidence that generators have exercised, or are likely to exercise, substantial market power.

> While a generator may have the ability to exercise substantial market power, it may not choose to do so. The mere ability of a generator to exercise substantial market power is not sufficient to justify regulatory intervention if that power is never exercised. Such a scenario is likely to be caused by structural factors, which may be addressed through more preferable alternatives than a change to the rules". (AEMC page 14)

The first supposition may be hypothetically possible, but it is noted that the MEU proposal refers to a small number of generators (especially TIPS in SA), which has a track record for the persistent exercise of market power. The approach by the AEMC fails to investigate the welfare harm caused by the economic withholding of capacity in SA.

The MEU puts the AEMC position more succinctly as:

> There is no problem but if there were, it should be managed outside the rules

This not only abrogates the AEMC duty to the NEO but is totally contrary to the approach taken by many other jurisdictions with regard to the problem of economic withholding, and runs counter to the stated Energy Reform Implementation Group (ERIG) view on the issue. The ERIG review was the most recent of public reviews of the entire NEM and material on their views on the issue of economic withholding (transient market power) is contained in the MEU application.

In relation to the concerns of other jurisdictions on the issue of economic withholding and how they assess the impacts of the exercise of market power, the MEU provided a detailed report from EEE Ltd which discussed how the exercise of market power has been assessed elsewhere. This work by EEE has been supplemented by the Poyry report to the MEU in its discussion on the most recent changes in the UK with regard to abuse of market power during transmission constraints. In particular, Poyry has observed that market controls have been applied in other jurisdictions in relation to energy only markets, capacity markets, supply of ancillary services and transmission constraints.

The MEU has noted that the AEMC has not been cognizant of practices used elsewhere. When the MEU queried this, AEMC staff responded that they consider that as the NEM is based on an energy only market approach, that experiences in other jurisdictions have minimal application to the NEM. As a result of this AEMC decision, no other approaches used overseas have been contemplated, or even considered to be applicable. This is a most curious and disturbing omission and increases the concerns the MEU has with the AEMC framework, approach and with the review process

Poyry in its report is critical of the AEMC approach and even AEMC consultant (CEG) observes in its report some concerns with the lack of any other considerations used elsewhere to assess the impacts of market power.

1.2 The MEU concerns with the AEMC approach

The MEU has consistently been of the view that unilateral exercise of market power to spike prices (by economic withholding of capacity) when demand is high but when there is still surplus capacity in the region causes the market to be less efficient than it should be. The AEMC approach, however, is only concerned if a generator exercises substantial market power. The AEMC defines this as:

> **"A generator exercises substantial market power** where it engages in conduct that has the effect of increasing annual average wholesale prices to a level that exceeds LRMC, and the generator is able (or is likely to be able) to sustain prices at that level due to the presence of significant barriers to entry."

This means the AEMC will only be concerned if the economic withholding carried out by a generator results in substantial harm to consumers **and** that this economic withholding has provided a significant barrier to entry. The implication of the AEMC approach is that both conditions have to be satisfied before it might take action. The MEU rejects this approach on the grounds that an averaging methodology fails to identify the cause of the price increase. In the MEU commissioned report from Poyry, Poyry considers there is an expectation that scarcity will (rightly) increase prices but that exercising market power introduces market inefficiencies that should not be tolerated.

The AEMC approach of focusing on annual averages and the long term is very unsafe. It basically implies that short lived but dramatic price increases do not injure consumers and competition, and that short term (transient pricing power – a term used by the AEMC) is a practice acceptable to the AEMC. This is a very significant conclusion by the AEMC but no robust evidence is provided to substantiate the conclusion beyond selective interpretation of the NERA metrics. Nor does the AEMC explain how such transient pricing power is permitted by the NEO even though the AEMC must have regard to the NEO in making Rules for an efficient electricity market which works in the long term interests of consumers.

Indeed the deficiency in the AEMC approach demonstrates why oversea jurisdictions apply additional and more appropriate indicators, as Poyry observes.

In fact, NERA has illustrated that periods of very high prices may not necessarily translate into higher average prices yet, there would seem to be an acknowledgement in the peer review of the need for care in the use of the NERA approach, the concerns are ignored. The peer review of the NERA technical paper noted that alternative measures such as the RSI should be reviewed as part of the assessment but were not implemented at all.

Of concern too, is that by adopting the NERA approach it would appear that it enables the AEMC to use it as an excuse not to undertake analysis of:

- Individual generator bidding behavior, strategies and profitability
- The welfare consequences of economic withholding (price spiking)
- The raising of barriers to new entrants in generation and retail

There is little doubt that each of these considerations is essential for the proper discharge of the AEMC obligations under the NEO.

Poyry (and other well recognized energy market economists (eg Professor Frank Wolak) highlights that these aspects are integral to assessing the harm caused by economic withholding of capacity.

Most disconcertingly, is that the MEU, AER and other stakeholders have also provided the suggestion of the use of such tools during the review process, but appear to be regarded by the AEMC and its consultants as inconvenient to the use of what is clearly a deficient approach.

The AEMC Draft Decision does not address that the act of economic withholding is inefficient and yet the National Electricity Objective is all about ensuring the market is efficient, as an efficient market is the basis on which to achieve the long term interests of consumers.

The approach appears to permit inefficiencies in the market because it considers that addressing these inefficiencies will otherwise jeopardize future investment in generation. However, it does not address the fact that inefficiencies in the market can cause considerable harm to current consumers, and that this might also harm future consumers as well, as the action of economic withholding (such as by TIPS) may be a deterrent to new generation and retail entry!. It is worth highlighting that CEG observes that the ability to economically withhold capacity (price spiking) by a dominant generator/retailer could just as readily deter potential new investors. Nor does it consider the impact of the reduction in market efficiency of generator out-of-merit order dispatch, causing an increase in overall system costs, by potential distortion of long term decisions on generation and retail and, critically, increasing costs and welfare losses to all consumer classes ((industrial, commercial and residential).

A concern with the AEMC definition is that it is not universal in use, or even universally used as an analytic tool[4]. For example, it is acknowledged that its application will not address circumstances where the calculation of a LRMC is problematic (such as with hydro generation which Professor Frank Wolak identified in his report to the NZ Commerce Commission). If a test is not universal, then its application would be considered by most competition authorities to be limited and other tests would be (and have been) developed which can be applied universally. Such tests have been developed and used in

[4] It is a unique stand alone approach developed specifically for this rule change proposal

other electricity markets and these are referred to in the CEG report but which the AEMC has elected not to use. In particular, there is a general view amongst competition and energy regulators (and by CEG and Poyry) that assessing the impact of economic withdrawal cannot necessarily be seen from average market prices but must be identified from examining the actions of individual generators. As the AER points out in its submission to the AEMC Consultation Paper, while the exercise of market power by individual generators is harmful to consumers, it also has severe market efficiency impacts – the IES report attached to the AER submission actually quantifies the inefficiencies. The approach used by the AEMC effectively by-passes any examination of such market impacts which can be quite severe[5].

The AEMC quantification approach is quite significantly flawed because it does not follow this widely accepted practice and conceals the impact of patently unacceptable and anti-competitive practices behind averaging.

For example, the MEU provided the AEMC with evidence that there has been the exercise of market power in Tasmania, with the most recent example being where the peak period spot prices in Tasmania exceed the off peak period spot prices. For the first half of 2012, off peak spot prices have averaged 20% higher than peak period spot prices in Tasmania despite demand being lower in off peak periods. That this can occur is a direct outcome of the exercise of market power. However, under the AEMC approach, this increased cost to Tasmanian consumers would not be evident.

To this end, the AEMC seems to accept that economic withholding is acceptable practice, because it is only due to transitory pricing power.

The AEMC is apparently so certain of the efficacy of its test that it has stated it will require it to be used in the future.

> "Careful consideration and extensive consultation has informed the framework adopted for the consideration of this rule change request. The Commission considers it is the appropriate methodology for considering potential generator market power in the NEM. The framework can be used by stakeholders to assess whether they consider there is evidence of substantial market power in the NEM in the future. In receiving any new rule change proposals in the future that relate to this subject matter, the Commission intends to use the same set of assessment factors to determine whether the new rule change will, or is likely to, contribute to the achievement of the National Electricity Objective (NEO)." (DD page iv)

[5] For example see the AER spot prices >$5000/Mwh report for 10-13 November 2009 in SA available at http://www.aer.gov.au/sites/www.aer.gov.au/files/5000Report_10%20to%2013%20November%202009%20-%20SA.pdf

The use of this flawed process for future examination of anti-competitive practices in the NEM, introduces the concern that prices could significantly exceed costs for years at a time without intervention, must have a chilling effect on downstream investment into the future. This represents a failure to have regard to other relevant considerations in discharging its statutory duty in the making of Rules.

The Tasmanian example (coupled with the extensive material provided by the MEU on the SA region) provides clear evidence that the AEMC approach is fundamentally flawed, yet qualitative analysis by CEG clearly shows that there is the ability to exercise market power in Tasmania. For the AEMC test to fail to identify what has occurred in a market demonstrably beset by the actual exercise of market power, shows that it is an inappropriate test and endorses the continued exercise of market power, provided that the exercise does not lead to an outcome that is too excessive.

The MEU has recognised that its concerns arise from a structural problem in the NEM and that it sees, as does the AER, that there is great potential for the problem to increase in the future.

The Poyry report states in regard to the AEMC's framework**:**

> **"From our review, we cannot conclude that the framework is fit for purpose and that it meets an appropriate threshold for application." (Poyry page 18)**

This conclusion is based on a review that identifies many critical failures on the part of the AEMC Draft Decision to provide sufficient and/or robust evidence for the conclusion that there is no "significant and sustained problem with the efficient functioning of the market.

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1.3 Economic withholding of capacity

The rule change proposal made by the MEU is to mitigate the ability of a small number of large generators from exercising their market power to economically withhold capacity (price spiking) and increase profits by doing so.

There is no doubt that economic withdrawal of capacity results in inefficiency of the market and causes consumers harm through a transfer of wealth from consumers to generators. IES (for the AER) concluded quite forcefully that[6]:

> "Based on the analysis of the eleven days suggested by AER [individual days over summers of 2008, 2009 and 2010, 5 in SA, 3 in NSW 2 in Queensland and I in SAVic] there does appear to be material economic costs incurred associated with inefficiencies in generator dispatches due to uncompetitive bidding."

[6] IES, Estimation of Economic harm, 2010.

The AER also commissioned SFS to address barriers to entry of new generation in SA regions. SFS concluded[7]:

> "Overall, and while current spot prices appear to be such that they would support profitable new entry, there are a number of factors at play in the South Australian region that may undermine incentives to undertake generation investment generally, but particularly investment on the part of new entrants:
>
> - An expectation that future spot prices will trend to zero, at least during off-peak periods, given significant projected wind investment, which is in turn driven by the RET policy;
> - Ongoing intra- and inter-regional network constraints, which create dispatch and risks for generators in many parts of the network;
> - The vertically integrated structure of the industry, which would make it unlikely that a new entrant could enter into long-term financing arrangements with an incumbent retailer;
> - The combination of significant sunk investment costs and ongoing price volatility, which increase investment risks and would also make it harder to attract financing, particularly for new entrants; and
> - Given AGL's recent announcements, the expectation of excess capacity in the South Australian region over the foreseeable future.
>
> Individually and in combination, these factors would likely prevent (third party) new entrants from commissioning new generation in South Australia and thereby encourage more competitive market outcomes." (SFS page viii)

Few generators have the ability to exercise market power in this way as there are few that are so large as to be able to eliminate competition when conditions are propitious. It is a structural issue. It is only possible when the structure of the market provides a generator with market power to do so, and if the generator can profit by doing so. As a matter of principle it should be prevented as it is in other jurisdictions.

An aspect expressed by the AEMC has consistently been that there are times when a generator has transient market power but the harm created by this transient market power may be less than the harm created by addressing the problem[8]. To this end the AEMC has attempted (through the NERA approach) to quantify the sustained use of market power, and by this quantification to show it there has been more harm than might be anticipated from a competitive market.

[7] SFS Economics, Barriers to entry in the South Australian region of the NEM, 2010

[8] But the AEMC still has to demonstrate this proposition before deciding not to make the Rule proposed and it still has to consider whether there is a preferable Rule which might be adopted. Neither of these has occurred

What is not addressed at any point in the Draft Decision, is that market power is exercised by the unilateral decision of economic withdrawal of capacity by a generator which knows that under the market conditions applying, it must be dispatched regardless of the price it offers to the market. Where there is competition, a generator deciding to withdraw capacity would not receive a benefit from doing so.

In its report, CEG examines the conditions that must apply for the exercise of market power, and points out that Hydro Tasmania in the Tasmanian region and AGL (Torrens Island Power Station - TIPS) probably has this power in SA[9]. **Despite CEG's frequent reference to its concerns about TIPS in the SA region, no reference is made to this in the Draft Decision as being of concern to the AEMC.**

In its previous submissions on this issue, the MEU has highlighted that the economic withdrawal of capacity is constrained in overseas jurisdictions as a matter of market efficiency, rather than following the AEMC approach of allowing it to occur as long as it is not used excessively. The MEU also pointed out that the Energy Reform Implementation Group (ERIG) established by CoAG in 2007, had its concerns about transient market power and that:

> "…dealing with short-period market power may point more to examining rules governing participant behaviour than to market entry problems."

There is also no doubt that there is economic withdrawal being applied in the NEM. It was used to excess in SA during the years of 07/08 to 09/10 and, as CEG observes, is being used now in Tasmania.

The Draft Decision seems to be of the view that economic withdrawal of capacity is required to:

- Allow generators to recover their long run costs, and
- Provide an incentive for investment

These observations are strange and contradictory, because in its response to the input to the debate on this issue by the AER consultant Mr Daryl Biggar[10], the AEMC states that a competitive energy-only market recovers long run costs by bidding short run marginal costs providing the marginal price applies to all output. This observation clearly supports a view that capacity withholding (price spiking) is not needed to achieve long run costs and thereby future investment will be achieved.

This would appear to be the case, because in Victoria, where there is a competitive market, economic withholding seldom occurs, but despite this there

[9] With the recent transfer of the Tarong Power stations into the control of Stanwell Power, Stanwell probably would be considered to have market power in the Queensland region
[10] Attached to the AER submission to the AEMC Consultation Paper

has been continual investment as and when it is needed and investment has continually occurred as needed. So, to assert that economic withholding must be allowed runs contrary to market evidence as well as its own view as detailed in response to the Biggar observation and provides evidence of a fundamental error of logic in the Draft Decision.

Further, the Draft Decision seems to state that constraining economic withholding of capacity will act to reduce future investment. Yet in other jurisdictions where economic withholding is overtly constrained, this has not been the result, as the MEU report from Alex Henney attests. What is even more concerning is that the CEG report and the peer review report comment that economic withholding might actually dis-incentivise future investment. Strangely, the Draft Decision ignores these observations. This is another area of concern to the MEU with respect to what appears to be selectivity on the part of the AEMC in dismissing views that apparently do not agree with its conclusion. Just as disconcerting is the preferred use of hypothetical possibilities by the AEMC even when empirical evidence (in other jurisdictions, and especially Victoria) has demonstrated to the contrary.

In the shorter term, it is used to transfer wealth from consumers to generators, and has been part of the reason for a number of closures of industrial plants in SA (with resultant loss of jobs in MEU members companies and others) and for residential consumers to suffer considerable electricity price pressure.

The Draft Decision fails to do what the AEMC is supposed to do – make rules to provide an efficient market that works for users to provide reliable and safe electricity at lowest cost – this is what the second reading speech for the 2005 introduction of the Electricity Law highlights. The whole issue of maximizing market efficiency has been overlooked and not addressed at all in the Draft Decision.

It is strange indeed that the AEMC considers that permitting its continued use is in the long term interests of consumers.

1.4 The independent assessment of the Draft Decision

The MEU noted that the AEMC sought a peer review of the NERA proposal to assess the impact of market power in the NEM. This peer review highlighted some shortcomings of the proposed process and triggered the need for an additional analysis to examine the impact of barriers to entry.

The Gans/King peer review also recommended that additional work be undertaken, such as strategic behavior and the interaction between generation and retail markets (as detailed in the MEU‘s rule change application) but these have not been undertaken. The importance of the concerns of vertical integration was also noted by CEG, which reported concerns that vertical integration in SA was potentially acting as a barrier to the entry of independent generation. Yet, this issue has not been analyzed even though the CEG data on

SA suggests that the market may not be working efficiently. Even the flawed AEMC metric, with all its inherent deficiencies, suggests there is a problem in SA region.

As the AEMC has not sought any peer review of the work by NERA and CEG, the MEU commissioned a review of the AEMC Draft Decision, and the NERA and CEG reports. This work was done by Poyry Management Consulting of the UK – a consultant which has had considerable experience in the UK and European energy markets. The qualifications of Poyry and the experience of the consultants actually involved in this peer review are included in appendix 2 to this submission.

Poyry is of the view that our concerns are substantial and provide a view that the AEMC approach to defining substantial market power

> "…does not capture a range of actions/behaviour that can have a material detriment on consumers. No evidence has been presented to indicate that this risk does not exist in the NEM." (Poyry page 17)

Poyry observes (Poyry page 10):

> "Specifically, it has been asserted [by the AEMC] that transitory pricing behaviour has no material impact on achievement of the NEO, though no evidence has been provided to support such a conclusion.
>
> As there has been no analysis of the behaviour of individual plant or generators, the extent to which additional costs have been imposed on consumers either directly (where they are exposed to spot price fluctuations) or indirectly (to the extent that forward and contract prices (including hedging costs) are influenced by spot market price levels and volatility) has not been quantified.
>
> It also does not present any evidence, for example through net revenue tests, that the bidding behaviour of plant is in line with, as opposed to above, their required returns.
>
> In effect, the definition applied by AEMC presents an opportunity for generators that have transitory pricing power to exercise that power to the maximum extent, provided it does not result in a sustained rise in average wholesale prices. This can be expected to reduce efficiency of dispatch, increase overall system costs and may also distort long-term investment decisions (both in terms of the level of capacity investment (artificially pushing prices up close to LRMC may perversely lead to incentives for overinvestment) and the type of capacity (peak or baseload))."

In earlier submissions, the MEU made similar observations, yet the AEMC has persistently failed to address such concerns, and provided no evidence that the MEU concerns are not valid.

Poyry also raises doubts as to the ability of the AEMC approach to address the problem identified by MEU in its rule change proposal. These doubts are addressed in more detail in a later section to this submission.

1.5 The Draft Decision is erroneous

The implementation of the AEMC approach has resulted in an outcome that effectively "defines" the problem away through annual averaging of data and comparing past prices with future costs – a practice not supported by either AEMC consultant (CEG) or the MEU consultant (Poyry). This approach to "defining the problem away" is addressed in more detail in section 2 of this response.

The AEMC advised in its Directions Paper that it would not apply a "bright line" approach to any quantification analysis but would use this as a guide as to the extent of any problem. The AEMC proposed that it would examine in a qualitative manner each of the quantitative outcomes of the NERA assessment. However, the qualitative evaluation by the AEMC consultant NERA provided a very high level and minimalist approach which is demonstrably biased to support their view that there is no problem. Even the deeper qualitative analysis provided by AEMC consultant (CEG) shows the many shortcomings of this high level qualitative analysis by NERA.

Of most concern is that CEG actually identifies that there are aspects for deeper analysis but comment that its terms of reference precluded this deeper analysis being carried out!

> "While examination of this effect is outside the scope of this study, we believe that it is relevant to bear in mind when considering potential competition problems in the NEM." (CEG page 16)
>
> "It is beyond the scope of this report to attempt to determine the extent to which structural or strategic factors are causing this volatility (including frequent negative prices of $1,000 MWh)." (CEG page 53)
>
> "Ideally, what is needed is an assessment of the probability and frequency of such events. This is a major modelling undertaking that is outside the scope of this report." (CEG pages 59, 60)

The Draft Decision makes no reference to these observations of constraint on its consultant or what the impact of carrying out the task might be.

There are errors of fact and logic in the reports (especially the NERA report) but which the Draft Decision accepts and uses as the basis for its decision. At the same time the Draft Decision excludes observations that do not support the contention that there is no problem of market power being exercised.

The AEMC is bound to apply the National Electricity Objective (NEO) in its decision making, and the NEO makes clear reference to the "long term interests of consumers" as being a key criterion of the objective. In this regard the Limited Merits Review Panel (specifically tasked with assessing aspects of the National Electricity Law observes (Panel Stage 1 report page 6)

> "Specifically, assessing the 'long term interests of consumers' – the criterion that lies at the heart of the NEO and NGO – requires a balancing of the consequences of regulatory decisions for potentially conflicting purposes (promoting the interests of consumers today and promoting the interests of consumers tomorrow)."

On page 37 the LMR Panel goes on to say

> "[The Objective] cannot reasonably be interpreted as meaning that the interests of consumers today are irrelevant, and that the only thing that matters is the welfare of energy consumers at some distant point in time. It does, however, mean that it is not just the interests of consumers who will vote in the next election that count: there are future generations also to be taken into account."

The clear implication of these observations is that current consumers should not be disadvantaged by the current use of inefficient practices which do not have a negative impact on future users. In a recent meeting of the MEU with the AEMC, the AEMC commissioners confirmed that they also agreed with the LMR Panel of the need to recognise the interests of current consumers in assessments made under the NEO.

The Draft Decision provides no argument that economic withholding is essential for the "long term interests of consumers" as the AEMC makes clear that a competitive market provides the needed incentives for future investment.

There is no doubt that economic withholding of capacity by a few large generators is an abuse of market power, because these few generators would not be able to exercise their market power if there was full competition. The fact that in other jurisdictions, this ability is constrained attests to it as being anti-competitive.

To be clear, either economic withholding is required to ensure that generators recover their efficient costs, or it is not required. If it is required, then there is a flaw in the market design because it relies on an abuse of market power and

price spiking behaviour in order to enable generators to recover their efficient costs. Either way, the AEMC needs to address the problem.

The Draft Decision fails to do what the AEMC is supposed to do – make rules to have a market that is in the long term interests of consumers by providing reliable and safe electricity at lowest cost – this is what the second reading speech highlights. The whole issue of maximising market efficiency that the second reading speech details is because this provides for the long term interests of consumers and this has been overlooked and not addressed at all.

The Draft Decision accepts that in order to demonstrate a market inefficiency there is a need for past prices to exceed future LRMCs, and that unless this condition is demonstrable, then no action is required. A premium of prices over future LRMCs implies that there will be rent taking by generators from consumers. The Draft Decision does not even consider if this rent taking is the result of a market inefficiency, such as the exercise of market power, or even it this is acceptable market practice. The clear implication of the Draft Decision is that rent taking is acceptable on the basis that it signals the need for new investment[11].

Not including any review of the cause of any rent taking is contrary to the National Electricity Law – wealth transfers are a concern if they are not necessary for the achievement of the Objective of the Law. Poyry makes this point quite succinctly and even CEG make allusions to it.

There are flaws in the detail of the development of the quantitative analysis, such as:

- CEG makes the point that comparing past prices with future costs is not correct and by implication (as future prices are unknown) past prices should be compared to past costs. Poyry reinforces this point.
- This issue is demonstrably even more important when the cost of carbon is included in the future costs but the past prices do not include any cost of carbon
- CEG provides a view that there is a problem and that economic withholding is probably occurring in Tasmania and SA and yet the AEMC accepts the conclusion of the other consultant (NERA) that there is not and this is not explained

Overall, the numbers of errors in quantifications and comparisons and errors of omission, further add to the basic issue that the AEMC has erred in its Draft Decision. The MEU expands on where these errors of fact and logic, and of selectivity in the AEMC work in subsequent sections.

[11] This point is examined in some detail by Poyry which comments that the cause of such rents needs to be examined as to whether it signals scarcity or market abuse is occurring.

2. The NERA report and assessment

The MEU has been consistent in its concern that the approach being used by the AEMC on the advice of NERA is flawed. The approach seeks to quantify the degree (if any) that there may be of rent taking by comparing spot and contract prices with long run marginal costs. In this way, the AEMC sought to eliminate the impact of price spikes that are inherent in an energy only electricity market.

In support of their view that averaging of prices and costs provides a better assessment of whether market power is being used, the AEMC (and NERA) consider that there is no need to monitor short term pricing spikes on the basis that they have limited impact on the NEO and the wider economy, and that, if there are no barriers to entry, prices will trend around new entry cost. Neither of these assertions is supported by the MEU consultant (Poyry) who notes that the approach is in stark contrast to approaches to assess evidence of exercise of market power used in other jurisdictions[12].

The first of these assertions was made in the full knowledge that a number of large users of electricity had provided first hand data and knowledge that this assertion was not sustainable, and that consumers were being required to pay significant increases in retail prices as a result of the economic withholding. Further, the AEMC has made no attempt to provide evidence to support its assertion.

The second assertion is that prices will trend around new entry costs, yet again it provides no evidence in support of this view. Such evidence could include net revenue tests to demonstrate that bidding behaviour is commensurate with needed returns to generators.

Based on these unproven assertions, NERA was requested to quantify the average incremental LRMCs for new entrants to each NEM region, quantify a number of specific market model (perturbation) LRMCs for each region, the annual average volume weighted spot price and an average annual contract price.

2.1 The SSNIP test

The first step in the NERA assessment was to define the geographical boundaries of the problem. NERA applied a SSNIP test which embodies a test using a hypothetical monopolist approach of increasing prices by 5% to determine the geographic boundaries.

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[12] In some cases, an assertion is so self evident that it might not require supporting evidence. However the AEMC has stated on many occasions that they require evidence to be provided to sustain concerns that have been raised. For the AEMC to make assertions as they have without providing supportive evidence when the issue has raised so many concerns from stakeholders is not sustainable, particularly when there is evidence to the contrary.

The SSNIP analysis by NERA demonstrates what would appear to be self evident – that the geographical boundaries for the assessment are the regional boundaries.

A similar test has been applied by the ACCC in relation to the request to authorise co-insurance of the NSW generators when the output of the generators was to be sold under the Gentrader arrangements in NSW. The ACCC also reached the same conclusion as NERA that the geographic boundaries that should be used for the analysis are the regional boundaries.

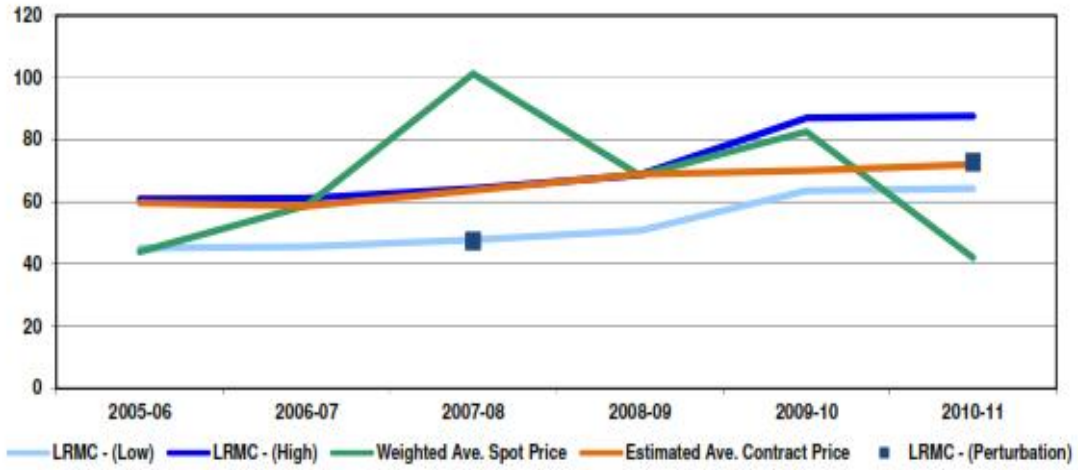
The SSNIP analysis has demonstrated that each region of the NEM is a separate region and this then required NERA to address the AEMC "market power test" to each of the four mainland regions of the NEM.

The decision not to include assessment of the Tasmanian region was based on two main elements. Firstly, the MEU rule change proposal had identified that examining market power in the Tasmanian region required a different approach to what it proposed, and that it was excluded from the rule change proposal. Secondly, it is apparent that Hydro Tasmania has almost absolute market power in that region. CEG confirms this in its report.

2.2 The application of the substantial market power test

The MEU has consistently referred to the outcomes of the exercise of market power in the SA region because this is where the most recent and obvious example of this exercise has been applied. The AER in its various reports has also identified that the exercise of market power has been most obvious in SA, although it had been observed in the Tasmanian region as well. Because the issue is so clear in SA, the MEU will concentrate on the short comings of the NERA report using its work on SA as the prime example to demonstrate these.

Figure 4.23
South Australia Weighted Average Prices Compared with Long Run Marginal Cost



This is the figure NERA has provided in relation to the SA region. It also provided a table which included the actual values.

The graph and data points provided by NERA are derived as follows:

> The green line tracks the annual average volume weighted spot price. This is from data published by AEMO
>
> The orange line tracks an estimate of actual contract prices calculated from a rolling four year average of prices published from the futures market with the futures prices arithmetically averaged over each year to smooth out daily variations.
>
> The mid blue line is the average incremental (AI) LRMC cost calculated with 10% higher than average gas prices and 22% higher WACC values than the average LRMC calculated by ACIL Tasman for AEMO.
>
> The light blue line is the average incremental LRMC calculated with a 10% lower than average gas price and a 22% lower WACC value than the average LRMC calculated by ACIL Tasman for AEMO.
>
> The dark blue square spot values are the LRMC calculated on a perturbation approach.

2.3 Issues with the NERA analysis

The MEU has a number of concerns with the quantification of the inputs calculated by NERA and the associated analysis carried out by NERA and AEMC.

Issue #1

The comparison of prices and costs are not equivalent in that the costs are all based on future costs but the prices are based on historic data. Both CEG and Poyry point out that, at best, the comparison should be based on future costs and future prices in order to be analogous. Origin Energy in its presentation to the Reliability Panel in 2010, (and was referred to in an earlier MEU submission) reinforced this point when it clearly pointed out that a decision to build new generation capacity is based on a contract from a user (retailer or end user) which locks in future prices – the decision is not based on what past prices might have been.

No one knows what future prices will be (unless these are contracted) so it is extremely difficult to achieve what CEG and Poyry consider is the appropriate comparison. As historical prices are known and past costs are also known, using historic prices and costs would provide a more balanced approach.

Issue #2

The high and low average incremental LRMCs are about +/-18% around the average LRMC costs for a new entrant calculated by ACIL Tasman for the AEMO Electricity Statement of Opportunities.

Rather than using the average LRMC calculated by ACIL Tasman, NERA calculates a range of LRMCs based on +/-10% variation on gas price and +/-22% variation on WACC. Overall these are large sensitivity ranges and result in the even larger overall sensitivity range of +/- 18% above and below the average LRMC calculation[13].

The implication from the NERA analysis is that if the price curve falls within this very large range, then there is no problem. In practice, it means that for the price to be considered to be in the acceptable range it only has to be less than 18% above the average cost for LRMC. Put another way, the price can be 18% above the average LRMC and still be considered to imply there is no substantial market power being exercised.

The implications of this 18% premium before NERA sees there might be a problem can be demonstrated by looking at the cost to consumers of using such a large premium. The cost impact of the premium can be assessed by applying to the actual volumes of electricity used in each year by the difference between the average LRMC (ie in the middle of the range between the high and low values used by NERA for the analysis) and the contract prices calculated by NERA. This provides the following cost impacts:

$m of wealth transfers to generators	**05/06**	**06/07**	**07/08**	**08/09**	**09/10**	**10/11**
Volume TWh	12.8	13.3	13.3	13.5	13.4	13.5
Cost of contract price premium (to AIC)	86	69	101	123	(70)	(53)
Cost of contract price premium (to perturbation points)			217			(9)

The values of the premiums by using the High low range set by NERA are very big numbers when it is considered that AGL purchased TIPS for about $400m plus the second hand Hallett gas turbines.

This signifies that the sensitivity ranges used by NERA are excessive. Reducing the sensitivity ranges results in the contract prices lying outside the sensitivity range and amplifies the conclusion there is a problem.

[13] This is contrast to the 5% NERA applied in the SSNIP test to define the geographic boundaries

Issue #3

There is no explanation by NERA as to why there is a significant step change of some 25% between 08/09 year and 09/10 year. It appears that this is a combination of two causes.

Firstly, the step change coincides with the price of gas built into the ACIL report of 2007 (lower gas prices) used for the first four years of the analysis and the later 2009 report (with higher gas prices) which is used for the last two years of the analysis. This step increase is not commented on or even highlighted by NERA even though the implications for the analysis are quite considerable. Those buying gas in large quantities did not see this step increase – all they saw was the gradual 3% real annual increase in the gas prices which ACIL Tasman shows in their forecasts of gas prices in both reports.

Secondly, it appears that the balance of the step change is the inclusion of the cost of carbon. NERA considers that this is an appropriate inclusion because it was known there was to be a cost for carbon in the future. This may be true (although an actual cost of carbon was only introduced in mid 2012 – well after the period being examined). This means that the cost curves include for the cost of carbon but the price curves exclude it. This is another example of the comparison being carried out comparing prices and costs which have different bases.

Another impact on the AI LRMC calculations would be the increase seen in recent years in the value of the $A. This would deflate capital costs thereby considerably reducing the LRMC calculations.

Issue #4

The market model calculation of LRMC is considered to provide the most accurate forecast of what is the likely LRMC at any point in time. NERA states that it was only resourced to calculate the market model LRMC for two years (07/08 and 10/11).

The CEG definition of a barrier to entry is not based on the average incremental LRMC approach that NERA uses, but on the market model approach for which NERA calculates two points for each region. This is particularly important as the market model LRMC points for SA are well below the mid point average incremental LRMC cost curve and close to the low range cost curves.

In the SA region the market model LRMC value for 07/08 is marginally lower than the low range AI LRMC value (ie 19% below the mid point average incremental LRMC value) and 6% below the average LRMC value for 10/11.

NERA contends that these two point values of the market model LRMC "prove" the consistency of the average incremental approach. In fact what they show is the upper bound is considerably higher than would be expected, being 37% higher for 07/08 and 24% higher in 10/11

The MEU considers that the market model LRMC calculations for SA show that the average incremental LRMC values are significantly higher than is warranted. This is further exacerbated when the market model LRMC values include for the cost of carbon.

As CEG uses the market model approach as the basis for its barriers to entry definition, the difference between the contract prices and the market model points is even more important because CEG "accepts" the NERA contention that prices are consistent with there being no market power being exhibited.

Issue #5

The market model LRMC values are based on AEMO forecast of future demand and consumption for the next 20 years. The AEMO forecasts of future demand and consumption have recently been significantly revised downward by 5% or more in the recently released revised 2011 ESoO. This implies that the market model LRMC values are probably overstated as they are based on inflated forecasts.

Issue #6

NERA has calculated the contract prices on a system wide basis using a four year rolling average of futures prices. The implication of this approach is that a quarter of the contract price is based on futures prices applying four years prior to the year investigated. This is indeed a bold assumption as Poyry observes. At most, maybe at most 1/3rd of the contract price might be developed on such a rolling average as retailers would have a reasonable expectation of maintaining the same market share of the residential market. At the other extreme, large users of electricity know first hand that the prices a retailer offers are based on prices applying for the next 3-4 days after which they may be varied. Large users of electricity use the bulk of electricity in the market so therefore the assumption of a four year rolling average for the entire market is extreme and would be a much shorter period in reality.

Averaging over 4 years to generate a system wide price value, tends to deflate and smooth prices considerably and therefore they are likely to be significantly lower than in actuality. Both the Draft Decision and NERA comment that this system wide approach is likely to underestimate actual prices. As NERA notes

> "…our analysis has not attempted to examine the situation for individual customers and has been focused on system wide outcomes. As a result any analysis of a system wide contract portfolio would not replicate the position of most customers buying to meet their load shape. Results of system wide analysis will most likely deliver an unrealistically low overall contract price…" (NERA page 37)

However, when NERA discusses qualitatively the comparison between prices and costs, this observation (of prices being unrealistically low) is not even considered to impact the comparisons.

Confidential information on actual prices provided to the AEMC by MEU confirm that this underestimate is real when the flat (time weighted) prices seen by MEU members are converted to volume weighted equivalents.

Issue #7

In its qualitative assessment, NERA does not differentiate between the impacts of scarcity and the impacts of market power. There is little doubt that the loss of a significant amount of generation during 2007 in Queensland and NSW was due to the loss of cooling water for generators causing a supply shortage. As generators in SA are basically air cooled, the impact of the drought in that region was minimal.

NERA considers that the high price in SA in early 2008 was due to a heat wave and reduced interconnector flows to SA. It does not investigate this assertion although both CEG and Poyry consider that deeper investigation is warranted. MEU investigation (detailed) in section 2.7 below shows that the NERA assertion is not supported by what actually occurred and therefore provides a misleading interpretation of the real causes of the high prices.

Overall, there are a number of distortions in the actual quantification of the inputs which imply that costs are lower and prices higher than the NERA work would demonstrate.

2.2 Interpretation of the NERA results

From the quantitative analysis NERA considers that their work shows there is no reason to consider that there is substantial market power being exhibited in the SA region because the spot price only exceeds the high end LRMC for one year and the contract prices do not exceed the high end LRMC at all.

NERA points out that the excessively high spot prices in the year 07/08 where the spot price exceeds the high end LRMC was attributable to a two week period in March 2008 where high demands and low interconnector flows caused high prices.

What NERA does not do is to highlight that:

- The market model LRMC values are consistently below the average incremental LRMC for the entire period, implying that the average incremental LRMC values are overstated for SA and indicate that new entrant generation is not required as a result of the high prices seen
- The spot prices either exceeded or tracked the high end LRMC for four consecutive years (ie exhibited an 18% premium to the average LRMC)
- Average spot prices for four years exceeded the high end average LRMC by 10% over four consecutive years (ie exceeded the average LRMC over a four year period by nearly 30% for four years)
- The contract prices (considered to be an under estimate) tracked the high range LRMC for four years (ie exceeded average incremental LRMC by 18% for four years and then tracked the average LRMC for the other two years
- The contract prices exceeded for five years the market model LRMC actual or implied values by as much as 35%

Although the important aspect of the AEMC approach is to identify if there is consistent and long duration of prices above LRMC, this aspect is totally overlooked in both the NERA analysis and that of the AEMC. What the chart shows is that:

- For four of the six years the spot prices were equal to or greater than an 18% premium to the average incremental LRMC (over the four years the spot price exceeded the 18% premium average LRMC by another 10%, implying spot prices averaged for the four year period by nearly one third)
- An acknowledged underestimate of contract prices consistently for 4 of the 6 years assessed are equivalent to an 18% premium to the average incremental LRMC
- An acknowledged underestimate of contract prices exceed the market model values for five of the six years

Despite this very clear conclusion that prices have considerably exceeded the LRMC (both the average LRMC and the market model LRMC) for the majority of the six years the conclusion drawn by NERA from this chart is that there is no definitive problem as the contract and spot price curves sit below the high range average incremental cost (AIC) LRMC calculation.

Even based on a fair and reasonable reading of the suspect data the conclusion that there is a no problem cannot be sustained - even CEG considers that there is a problem

It is absurd to consider that contract prices could be at a premium of 35% above the market model LRMC in 07/08 and an average 13% above the average incremental LRMC for four consecutive years (06/07 – 09/10) without

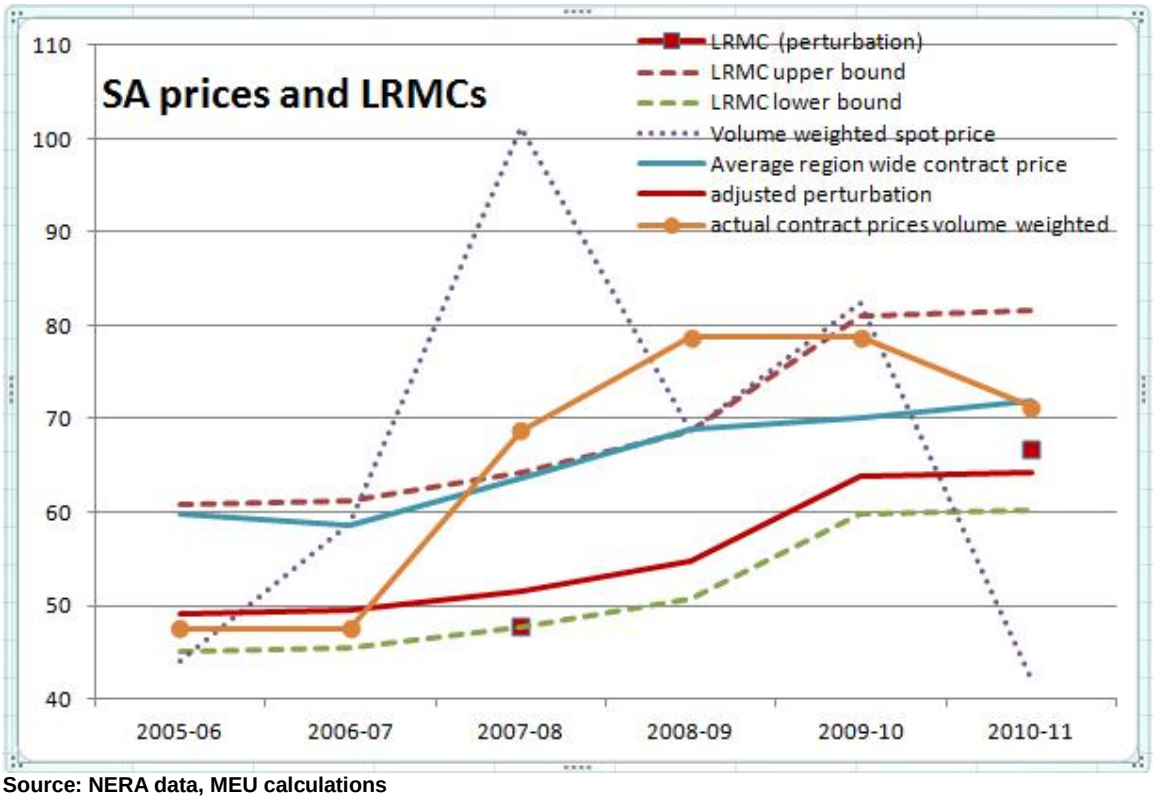
considering that this is anomalous, especially when such a similar outcome did not occur in any other region.

Basically the NERA interpretation of the results of its quantitative analysis is erroneous and is clearly biased.

2.3 MEU adjustments to the NERA chart

The MEU has attempted to include adjustments to the NERA quantifications to remove some of the anomalies noted above, especially in the development of the contract prices and the removal of carbon costs. The MEU did not include changes to the $A or the reductions in forecasts demand and consumptions of electricity in the recently revised ESoO.

When the changes are included, the following chart is the result.



Source: NERA data, MEU calculations

The LRMC costs have been adjusted down in 09/10 and 10/11 to eliminate the price of carbon. Although it was expected that a price for carbon would eventuate, it was not introduced until July 2012. It is inconsistent and distortionary to include the price of carbon as a cost and to exclude it from the price. Capital costs would also be lower due to the high $A, but this has not been factored in.

A new curve has been added which tracks the two market modelled points. This new curve uses the same annual changes as the average incremental curves

but is sited to average the two market model points after the cost of carbon has been eliminated.

A new curve has been added which tracks the actual contract prices for flat loads provided by MEU to the AEMC, adjusted to reflect volume weighting[14]. This curve closely tracks the spot price more, with a delay as might be expected. The average of "contract" prices over the period using the NERA approach is $3/MWh higher than that using the MEU approach providing confidence that the MEU approach is conservative, especially when remembering that NERA acknowledges that their method is likely to provide an under estimate

What the revised chart shows is that:

- Actual contract prices would be expected to be lower in the first two years as there was no economic withholding by TIPS until January 2008 and consumers see that contract prices lag spot prices by at least a year.
- The volume weighted spot price matches or exceeds both the high range LMRC and the market model LMRC for 4 of the six years although the timing is at different ends of the curves
- The spot prices exceed or track the high range LRMC for 4 of six years and for all six years significantly exceed the market model LRMC by an average of 17%
- The actual contract prices significantly exceed the high range LRMC for 3 of the six years and significantly exceed the market model LRMC for four of the six years and track it for the other two years.
- The premium of contract prices over market model LRMC shows a maximum of $24/MWh and an average premium of 14% over the six years

The MEU figures strengthen the argument that there is a real problem and that deeper investigation is warranted as the figures do not provide the robust evidence to sustain the NERA's analysis or the conclusion that there is no problem of sustained market power in the SA region.

2.6 Qualitative analysis

The AEMC advised that they would not use a "bright line" test but would use the quantitative analysis to show if deeper qualitative analysis is needed. The qualitative analysis by NERA is quite cursory and does not contain considered reasons of the aberrations from the average costs.

[14] This was achieved by increasing the actual MEU provided contract prices and multiplying these by the proportional difference between time weighted and volume weighted spot prices in SA for the past eight years.

It observes high spot prices of 2006/07 and 2007/08 were due to drought limiting output of generation In Queensland. It attributes the NSW high spot price in 2006/07 to the drought.

It goes on to state that the high price in SA in 07/08 was caused by heat wave conditions in March 2008 abetted by low capacities on the interconnectors. NERA also looks at the frequency of price excursions and price and load duration curves

This is the sum total of the assessments of high spot prices and is patently inadequate. Even CEG, which is not tasked with assessing the output of the quantitative analysis, does more into investigating the causes of the high prices in SA.

The conclusion that is implied by the NERA analysis is that high priced peaking generation was required and this caused the high price.

CEG mentions that the high prices were caused by economic withholding but NERA does not mention this at all or to assess whether regional demands were well within the ability of the base and mid merit generators to provide, even with the lower flows on the interconnectors. In fact on most of the days where NERA alleges the high prices were caused by the need to bring on peaking plant, the interconnector flows, plus the base load and mid merit generators of Osborne, Pelican Point, Northern Playford and TIPS A and B were capable of meeting the regional demand when the high priced events occurred.

This means that no high price generation was needed to meet the regional demand as implied by NERA. This highlights the cursory and misleading analysis by NERA.

Nor does NERA address the fact that for four years the contract price it developed sits at the high range average incremental LRMC. As noted above, the high range LRMC values are 18% above the average LRMC values used by AEMO in its Statement of Opportunities. The mere fact that the contract price is at such a premium for such a long term is worthy of comment, but there is none.

Equally, NERA fails to mention that in SA the more accurate market model LRMC values are considerably below the high range average incremental LRMC values and that the contract prices it uses for comparison are significantly higher than the market model LRMC values. These aspects show considerable variation to the general view that there is no problem that a proper qualitative analysis would warrant. These omissions throw considerable doubt on the value of the NERA qualitative analysis, even without looking at the actuality of the reasons for the higher prices.

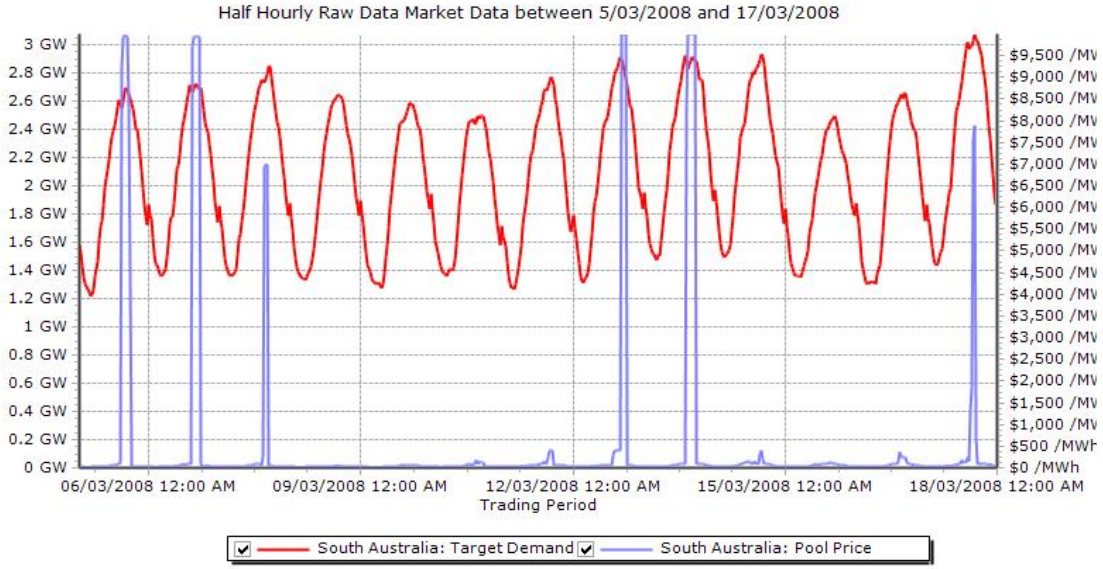
2.7 A closer look at those days in March 2008

The MEU has looked at the two week period that NERA mentions of 5 March to 17 March in 2008, which caused the high spot price in 2007/08. NERA comments (NERA page 37)

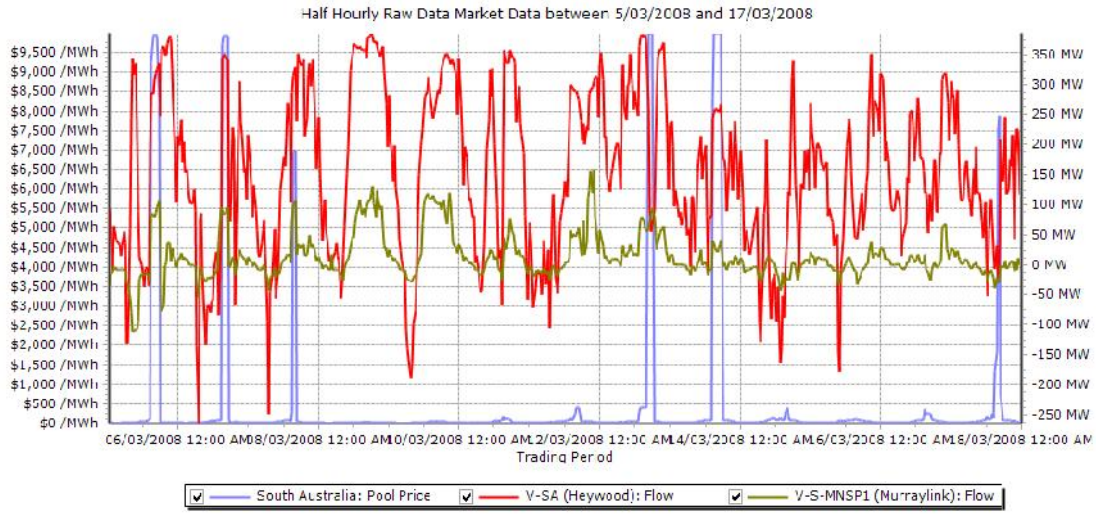
- "South Australia experienced an unprecedented 15 day heat wave over this period, which led to record levels of electricity demand; and
- the capability of the interconnector at high price times was the lowest level over the period reviewed, thereby limiting electricity flows from Victoria."

There are two errors of fact in these statements.

Firstly, over this period, demand did not exceed 3000 MW (except on the last day when it just passed the 3000 MW mark but the price did not reach the levels seen earlier in the period) and SA has experienced higher demands up to 3330 MW (more than 10% higher). So the heat wave did not deliver record levels of demand.



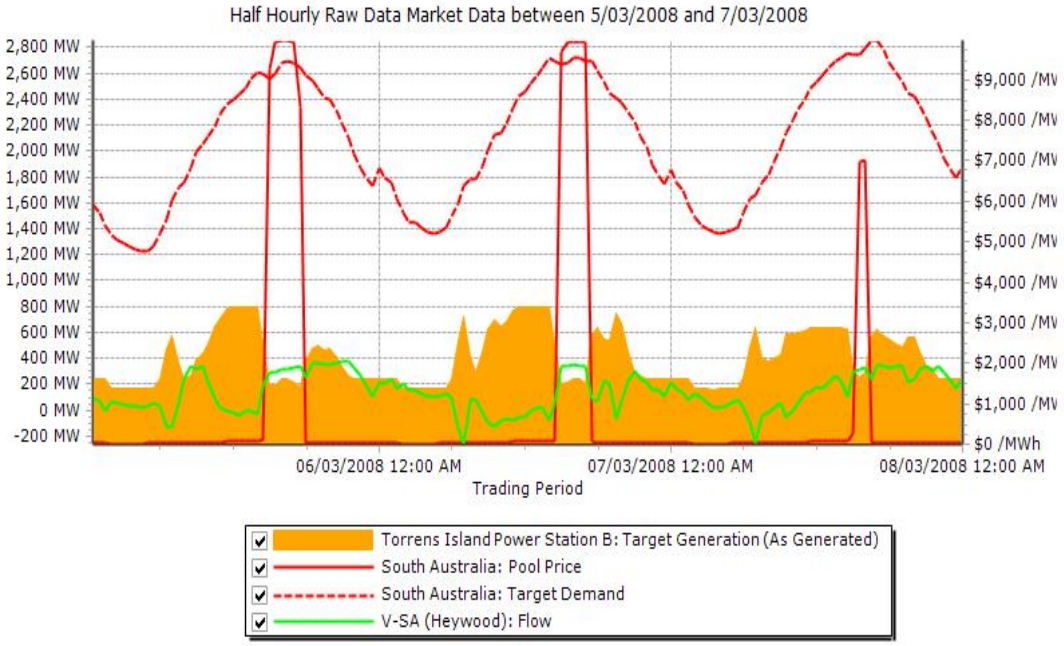
Secondly, interconnector flows on Heywood and Murraylink, although lower than the rated capacities of the interconnectors, were not at their lowest levels at high price times.



What is concerning is that NERA has used averages over time to support its conclusions but with closer assessment the NERA explanations prove to be less than accurate and quite misleading.

An analysis such as that used above shows that there are a number of days with demand amongst the highest over the period, where the price did not reach the highest levels, and other days where the demand was considerably lower than the highest level experienced in the period, where the price did not rise at all.

The following chart is of the first week of this heat wave period. It shows regional demand and regional price, along with TIPS B output and the Heywood interconnector flows.

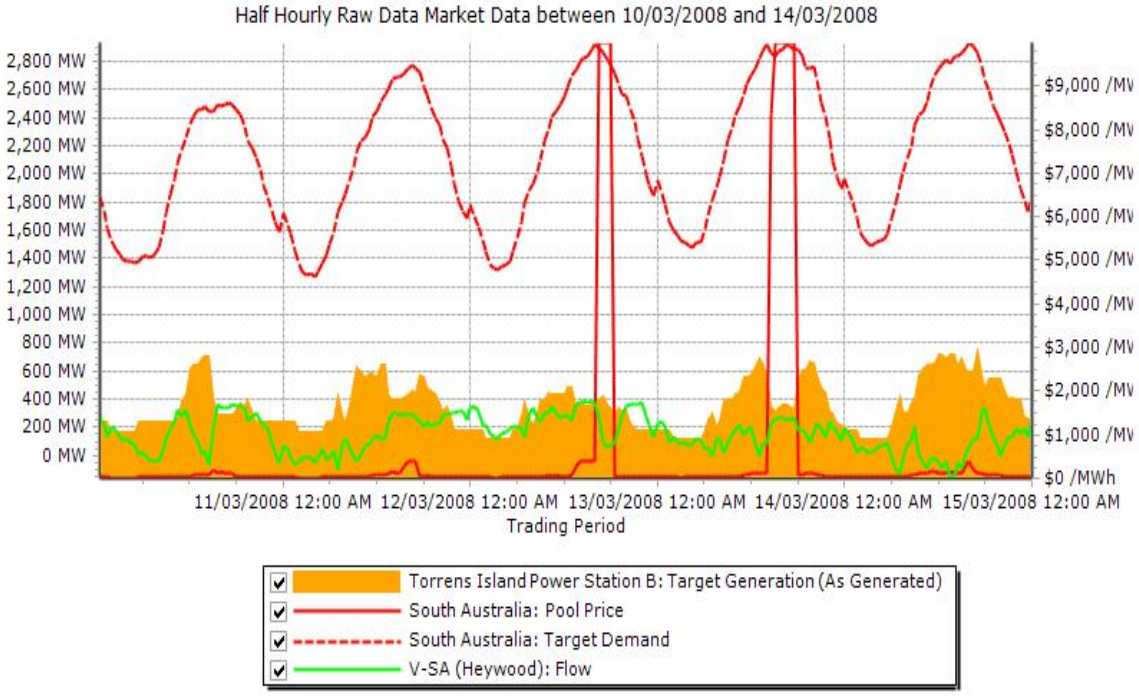


In the first week of the period, the highest prices were not associated with the highest demand, but do show that TIPS B withdrew capacity when demand was the highest, causing the price to rise.

Heywood flows were close to 400 MW on the first two days of the high price events (ie only 15% below rated capacity) and TIPS B economically withdrew up to 500 MW of capacity (from 800 MW to 300 MW) to force on peaking plant for two and a half hours

On the third day, regional demand was slightly higher that on the first two days, but the spot price was lower and only spiked for ½ hour even although the Heywood flow was lower. This does not support the NERA contention.

In the second week, demand if anything was higher than the week before.



On the first day of a price spike, Heywood flow was lower than the previous week and TIPS B did not have to back off supply as it did the week before, it just failed to offer its capacity at the usual prices.

This did not happen on the second day. Heywood flow was near 300 MW, demand was much as it was the day earlier, and TIPS B effectively backed off over 300 MW

On the third day demand is the highest so far in the heat wave period, Heywood flows were right down (~100 MW) but the price does not peak. The reasons for it not doing so are not publicly known, but it may well have been because AGL did not want to breach the cumulative price threshold and thereby trigger an administered price by AEMO. **Whatever the reason, there was no excessive**

price spike on the day demand was the highest in the week and flows on Heywood were at their lowest.

The following Monday replicated the Friday experience with an equally high demand, low flow on Heywood interconnector but a more modest and shorter lived price spike.

Despite the weather in SA and Victoria being similar and there being high demands in Victoria during the same period, the baseload generators in Victoria did not economically withdraw capacity. This was because there was no value in doing so as none had the same market power that TIPS has.

The NERA commentary of high demands and low interconnector flows does not explain why the price spikes occurred on some days with lower demands and high interconnector flows but not on days with higher demands and lower interconnector flows.

This deeper analysis shows that the cursory review by NERA does not support the contentions provided by NERA. Intriguingly, the CEG report does address some of these issues, but the Draft Decision makes no reference to the CEG observations.

The AEMC failed to look into these cases identified by CEG (or even the specific cases of price spiking provided by the MEU) but has given no reasons why it has failed to do so. Because the focus of the rule change proposal was entirely about this issue, the AEMC failure to investigate further indicates it has failed in its duty to the NEO.

2.8 A comparative analysis

The MEU would have expected that with the focus of its rule change proposal being so heavily related to the experiences in SA (and to a lesser extent in Tasmania) that a prudent analysis would be to assess if the quantitative analysis for SA was significantly different to that in another comparable region. As SA weather and that of Victoria follow similar patterns (especially for hot weather) comparison with Victoria outcomes might provide support for the contention NERA has. Comparison with Victoria would also show whether the outcomes in SA are commensurate with those of the region considered to be the most competitive in the NEM[15]. So on two counts, comparisons with Victoria has the ability to demonstrate or otherwise the contention that there is no problem.

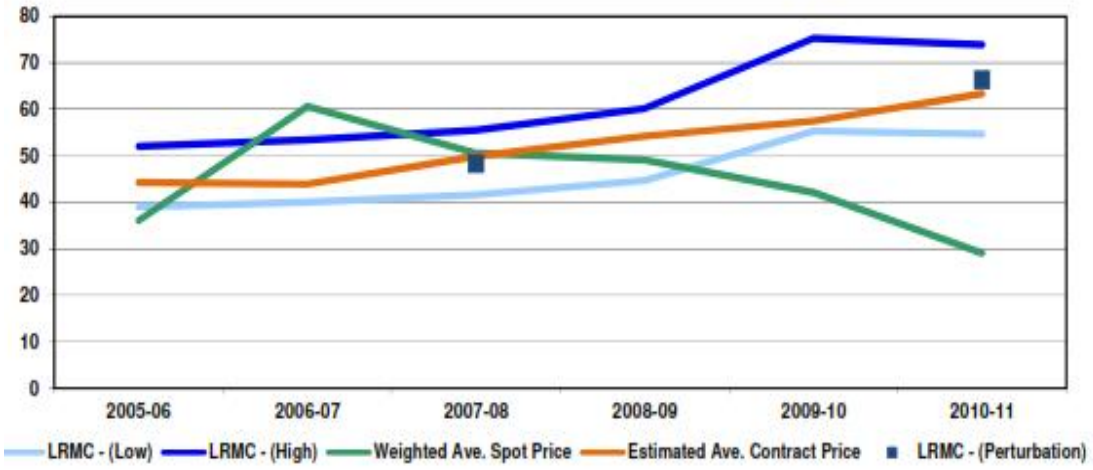
NERA undertakes no comparative analysis of the results in one region with that in another region to identify if this might highlight anomalies. CEG does do this

[15] In the CEG report figure 3, it shows that Victoria is the least concentrated region in the NEM using the HHI as a guide. An HHI below 1500 is considered to show an unconcentrated market but not one that is highly competitive.

and identifies that there is a problem of the exercise of market power in Tasmania and possibly in SA.

The MEU does provide some comparative assessment between the two and this is salutatory. The NERA chart for Victoria is provided below

Figure 4.15
Victoria Weighted Average Prices Compared with Long Run Marginal Cost



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Victoria and SA share similar weather patterns, so there is an expectation that the charts might be similar. But there are differences. Gas prices in Victoria are slightly lower than in SA and Victoria has more cooling water availability so generators tend to be water cooled whereas in SA they are air cooled, leading to higher capital costs. Thus the average incremental LRMC curves would be expected to be higher in SA than in Victoria. This is as seen in the NERA charts

There is a general view that the Victorian market is the most competitive in the NEM[16] and therefore the expectation would be that if there were no problems all regions would display similar outcomes to that seen in Victoria. The SA market shows considerable variation to the Victorian outcomes

The only excursion of the Victorian spot price above the LRMC high is due to the drought and prices being “imported” from NSW and Queensland, although there was some impact of the drought in Victoria also, but not to the extent seen in the northern states.

The market model LRMC in Victoria tends to replicate the base average incremental LRMC values provided by ACIL Tasman to AEMO and therefore they sit mid way between the high and low ranges.

[16] At the time of its formation, the Victorian regional market was established with a much more competitive structure than any other in the NEM

The calculated price sits well with the market model LRMC values which is what might be expected with a competitive market which would deliver a quite liquid futures market.

In contrast, for SA

- The spot price curve sits mostly at or above the high end AIC range for most of the time
- The contract price curve tracks the high range AIC values
- The market model points sit between the low range and base LRMC values, with a bias towards the lower range
- The SA futures market was so illiquid over the 07/08-10/11 period that ESCoSA had to stop using its approach of using market prices as the basis for setting the retail price cap

Despite there being no apparent strong price driver for new generation investment in Victoria (with spot and contract prices being at the base level LRMC values) there has been significant building of new dispatchable generation in the region, with Mortlake being the latest.

However, in SA there has been little investment in dispatchable generation (Quarantine stage 2 being the latest coming on line in early 2009) despite there being a strong price signal for a considerable period.

A comparison of the NERA data for Victoria and SA clearly shows that there is something wrong in SA. This concern is strengthened when comparing some of the other data provided by NERA.

	SA	Vic
Year of max peak demand	10/11 then 08/09	08/09 then 09/10
Average annual growth in peak demand	3%	3.%
Years spot price is near or above LRMC high	4	1
Calculated prices vs market model points	Well above	aligned
Half hours of price excursions above $5000/MWh (6 years)	22.5 pa	9.8 pa
Half hours of price excursions above $5000/MWh 07/08, 08/09 and 9/10	139	45
Most frequent cause of high price	Economic withdrawal	Very high region demands
Market liquidity	Illiquid	Liquid

This table shows that:

- Weather patterns result in the high demands being reasonably concurrent and the growth in demand being similar
- NERA provides data on the number of high prices in SA but fails to compare the frequency to any other region. The numbers are so different, considerable discussion is warranted (more than just that there was a heat wave and the interconnector flows were low)
- The SA spot price is consistently near the LRMC high range but not in Victoria
- Over the six years SA experienced over twice the average number of price spikes seen in Victoria and in the three years 07/08-09/10 over three times the frequency of price spikes
- If NERA had carried out more indepth analysis, it would find that the reason for the high frequency of high prices was mainly due to economic withdrawal of capacity by TIPS but in Victoria they were mainly associated with high regional demands and/or infrastructure failures.

NERA does indicate that the frequency of high spot prices after 09/10 falls significantly. NERA comments that this might be associated with the increasing amount of wind generation in the region. This is a factor, but NERA does not assess the legitimacy of this observation as the output of wind generation tends to fall with high regional demands caused by hot weather. The reason for this is that wind generation tends to "turn off" at these times for safety reasons.

A more likely cause of the reduction of the number of price spikes is related to the level of contracting AGL has secured for TIPS. Since AGL secured a large number of retail contracts (MEU has explained to AEMC how this occurred) it has no reason to spike the price since 2010 but, because there was no comparative analysis by NERA, this aspect is not investigated at all even though the issue had been highlighted by MEU in discussions with AEMC.

CEG comments that economic withdrawal has been exercised in SA and Tasmania. It asserts that this has contributed to an illiquid futures market and then comments that an illiquid market provides a barrier to entry. With this in mind, there should have been considerably more analysis as to the causes of this illiquidity in SA and why this was not seen in Victoria.

2.9 Summary of MEU issues with the NERA report

In section 1, the MEU provided its concerns about the AEMC approach. Section 2 provides the MEU views as to the implementation of the approach by NERA and the conclusions drawn from the analysis.

The MEU has provided considerable analysis to indicate that the NERA report is erroneous.

There is no doubt that a fair and reasonable reading of the NERA work outcomes demonstrates that what was seen in SA in 2008-2010 is not acceptable and has caused considerable harm to consumers and that the causes need to be addressed. When corrections are made to address the inconsistencies in the input data used by NERA, this merely magnifies a problem that is already obvious.

The bald assumption that spot and contract prices should be able to track an 18% premium to average LRMC for four years is acceptable, reflects a total disregard for the interests of current consumers

The detailed qualitative analysis by NERA is superficial at best and the lack of any investigation of the actual generator activities that led to the high prices in the March 2008 period confirms this superficiality when regulators all over the world see that detailed investigation of generator activities is an essential step in assessing the use of market power.

The lack of any comparison with regions with similar weather patterns to test if the outcomes compare with those of a competitive market further reinforces the view that the qualitative analysis is superficial.

Overall, there is no robust evidence that there is not a problem of ‘sustained market power’ in terms of the AEMC’s (flawed) definition. In fact, a fair and reasonable reading of the flawed NERA approach clearly supports the MEU view that there is a problem in the SA market.

Certainly, such a fair and reasonable reading does not support the AEMC and NERA contention that there are no problems of market power in SA.

3. The CEG report

The AEMC commissioned CEG to define a barrier to entry of a generator into an electricity market and to apply this definition to test whether there is any historical or current evidence of significant barriers to entry to the NEM. Most intriguingly to this brief to CEG is the apparent circularity in the approach by AEMC and CEG to this review.

- The AEMC states there will not be a "bright line" quantitative test
- NERA considers that there are no problems based on their quantitative analysis and the NERA qualitative analysis supports the quantitative outcome
- CEG considers that there are problems, particularly in regard to economic withholding in Tasmania and South Australia which warrant further investigation
- CEG then states that, as NERA considers there is no problem, then there is no problem
- The AEMC then uses the CEG report to support the conclusion that there is no problem

Such circularity in approach by the AEMC detracts considerably form the independence and conclusions of the CEG report. Despite these constraints on CEG, the CEG report does highlight that there is a problem in Tasmania and probably in SA.

In its report CEG noted that there were a number of concerning features they had identified:

- Market concentrations in Tasmania, SA and NSW were at a level to warrant concern. This indicated to CEG that deeper analysis was required for assessing barriers to entry in Tasmania and SA.
- There was strong evidence of capacity withholding in Tasmania and SA
- The extent of the vertical integration in SA was impacting the market both in terms of a barrier to entry through increasing volatility and reducing liquidity in the contract and futures markets

One of the most telling comments from CEG is:

> "We found evidence [in SA] consistent with capacity being withheld to drive up prices and that vertical integration may be creating a barrier to entry by independent non-vertically integrated generators. On the other hand, pricing evidence from the NERA/Oakley Greenwood report suggests that competition among incumbents is effective and/or barriers to entry are not significant." (CEG page 7)

This comment is quite disturbing because it identifies there is a problem, but based on the NERA analysis, CEG concludes there is not a material problem. Where there is apparently conflicting evidence, more rigorous analysis is required to identify where the real problem lies, but CEG's ready acceptance of the NERA report as providing an outcome which over-rides CEG analysis is quite concerning.

That the Draft Decision does not address this apparent conflict in detail also raises considerable concern. Poyry also notes this conflicting evidence and concludes that based on its analysis, CEG's concerns should carry more weight than the Draft Decision gives it.

3.1 Economic withholding and barriers to entry

In its report, CEG highlights that the use of economic withholding can actually increase barriers to entry, especially when the generator is affiliated with a dominant retailer. As CEG comments:

> "We found evidence potentially consistent with materially more capacity being withheld to drive up prices in South Australia than any other mainland state. We also found that vertical integration in South Australia is associated with reduced liquidity in contract/futures markets and it is reasonable to question whether, in this context, high volatility in South Australian prices (including frequent negative price spikes) may be creating a barrier to entry by independent non-vertically integrated generators (or incumbent generators with limited natural hedge in the form of retail sales)."

The peer review by Professors Gans and King on the NERA approach highlights one (but not all) of these strategic issues and the AEMC refers to this on page 13 of the Directions Paper:

> "…an incumbent generator could engage in conduct that is intended to signal to a potential new generator that it has substantial market power and that it will exercise that power if the generator enters the market. Such behaviour would be intended to deter entry by reducing the potential new entrant's confidence that it will be able to operate profitably once it has incurred the significant sunk costs that are necessary to enter the market. "

Despite these concerns about other impacts from economic withholding, the AEMC has primarily used the quantification approach used by NERA to identify if action is required. Despite the AEMC decision not to use a "bright line test" it has done exactly this as the qualitative analysis undertaken by NERA is at a high level and, in the view of the MEU, quite misleading.

3.2 Definition of barrier to entry

CEG develops the following definition of barriers to entry

> "Substantial market power arises from any set of conditions that give rise to the ability of incumbent generators to set market prices above the level required to compensate for the efficient costs of new capacity required to meet demand growth in the NEM (or in a NEM region)." (CEG Page 19)

What is important in this definition is that CEG makes it clear that the definition is not based on average incremental LRMC but on the market model approach which assesses the current value of generation costs incurred in the future to meet regional demand.

In the case of the SA region, where the market model cost is at the lower bounds of the average incremental LRMC values, the NERA analysis shows that the contract costs (accepted as being an underestimate) exceed the market model values by a considerable margin for at least five years.

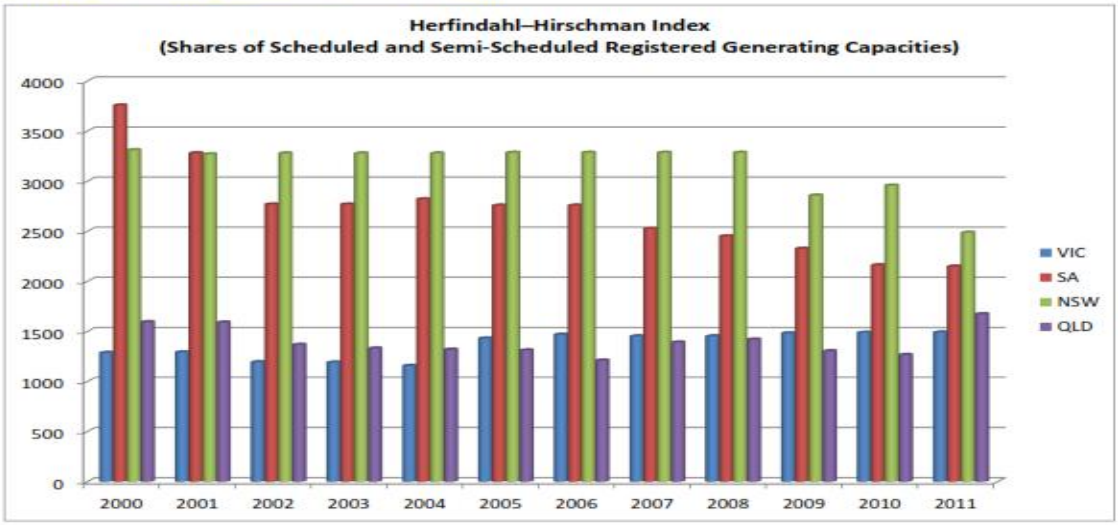
This then raises considerable doubt with respect to the decision of CEG to accept the NERA conclusion that there is no problem despite its own assessment being to the contrary, and the appropriate quantitative data supporting the view there is a problem

3.3 Market concentration

CEG identifies that market concentration provides an indication that there may be a problem from barriers to entry and that any market concentration provides the basis for the exercise of market power.

CEG uses the Herfindahl–Hirschman Index, or HHI as its primary tool to assess market concentration. It provides the following chart of its assessment of HHI for the NEM regions over time.

Figure 3 – Time series for HHI in NEM



Source: CEG calculations based on information from AEMO Electricity Statement of Opportunities 2011, AEMO Energy Market Registration Lists and CEG research.
**Excludes Snowy Hydro's Snowy Mountain Scheme power plants situated between New South Wales and Victoria and which prior to 2008 had its own NEM Region.*

This shows that of all the regions Victoria is the least concentrated and therefore could be assumed to be the most competitive in the NEM. This reinforces the MEU decision to use Victoria as its comparator to the experiences in SA. In contrast, the HHI for SA shows that it is approaching moderate concentration and therefore a market where it might be possible to exercise market power.

Whilst the HHI is a useful and widely used indicator of market concentration, regulators of electricity markets have concluded that this index has limited value in electricity market and have therefore developed other indices such as pivotal supplier test used in the PJM market in the United States and the Residual Supply Index, similarly used by the Californian ISO. Poyry provides a view that these indicators:

> "…unlike market share or HHI measures, they explicitly account for demand conditions, the dynamics of the market and the impact of forward contracting" (Poyry page 5)

Poyry provides examples of the markets where these indexes are used

CEG also comments on the limitations of the use of HHI for electricity markets. CEG observes:

> "However, aggregate measures of concentration such as [HHI] are potentially problematic when applied to generation markets. This is because they do not capture the fact that, given the inability to store electricity, in certain market conditions prices are very sensitive to changes in supply…" (CEG page 59

Overall, CEG concludes:

> "…evidence on concentration suggests that unilateral SMP is unlikely in the NEM States with the exception of Tasmania. Outside of Tasmania, AGL's position in South Australia is more borderline on the basis of the market share evidence alone. HHIs are higher than the ACCC's threshold for the likelihood of competition concerns in New South Wales, South Australia and Tasmania. ….The evidence of concentration alone thus suggests that SMP concerns are less likely in most States except for Tasmania. Apart from Tasmania, the concentration evidence is less conclusive with respect to South Australia and New South Wales." (CEG Page 34)

Whilst acknowledging that on the evidence of concentration of the markets, there might not be a problem, CEG analysis and observation implies that SA (and NSW) is on the border of warranting more investigation. CEG also acknowledges that HHI is not the best tool for assessing the ability to exercise market power, but it fails to use these to test these admitted borderline cases.

3.4 Barriers to entry

The MEU notes that CEG addresses all barriers to entry, including imposts on generators that may cause a barrier to entry. These barriers are common to all generators and are not unique to the issue of exercising market power by withholding capacity.

CEG points out that in SA, the high prices of 2008-2010 could be seen in this light. CEG notes:

> "Demand in South Australia is not growing at a strong rate and the AEMO is not predicting the need for material new capacity. In these conditions it is conceivable that incumbents would be able to raise average market prices above the level that would make a new CCGT plant profitable without inducing entry by that plant." (CEG page 43)

CEG then comments that the degree of contracting by a generator impacts on whether it would seek to exercise market power as to whether it has contracted a large proportion of its output and thereby not need to raise spot prices further. CEG comments that;

> "…these other structural barriers to entry would be significant only to the extent to which prices were found to be above LRMC for significant periods of time" (CEG page 43)

This CEG observation is a point made by MEU in its rule change and subsequent submissions to the AEMC. The issue is what constitutes a significant period of time. Under the NERA analysis, in the case of SA, contract and spot prices were at or above an 18% premium to the average LRMC for four years. They were above the market model new entrant cost for five years

This issue relates to the degree of vertical integration that has occurred in SA where AGL is now the dominant generator and the dominant retailer. This combination is diabolical – the dominant generator raises spot prices and creates extreme volatility when it can by economic withholding. New entrant generators see that the dominant generator has the market power to create the illusion of the need for new entrants and do not enter the market for the reasons CEG observes.

The market displays high prices and high volatility and so increases risks for other retailers who then seek hedging prices from the dominant generator. The affiliated dominant retailer is well set to get more attractive hedging prices from its associated generator and thereby gains market share at higher prices. Once these retail prices are locked in, the dominant generator reduces spot prices to prevent new entrants.

This is the scenario played out in SA where prices (spot and contract) exceeded the new entrant level for four years, and then when AGL had acquired an increased market share at higher prices, its generator allowed the market to return to normal as the generator was well hedged internally at higher contract prices.

CEG then comments that, based on the NERA analysis, the pricing analysis indicates there was not a barrier to entry from this type of activity. The MEU sees that the premium and duration of high prices warranted further examination by CEG, but CEG is bound to accept the NERA contention that there was no premium.

That the AEMC in its Draft Decision does not identify this inconsistency is extremely concerning.

CEG then discusses that pre-emption of new capacity from an incumbent might provide a barrier to new entrants. AGL (the dominant retailer and dominant generator) has been advising since 2009 that it intends to increase the capacity of TIPS by 500-750 MW (CEG page 44). AGL has the land and the transmission connections to implement such an augmentation faster than a new entrant generator, so by making this announcement, AGL is pre-empting competition. CEG points that this is a proven strategy in its report (CEG page 45).

CEG then considers that:

> "… pre-emption is potentially a problem in SA" (CEG page 46)

CEG goes on to state that increasing vertical integration provides a barrier to entry as it is associated with a reduction in liquidity for hedging contracts. CEG notes that market liquidity is

> "…particularly poor in South Australia" (CEG page 47)

and that this could act as a significant deterrent to entry. CEG shows that SA is an illiquid market.

If the SA market has shown that its prices significantly exceed new entrant prices for four years, that there is considerable vertical integration of a dominant retailer with a dominant generator, and that the market is demonstrably illiquid, the only conclusion that can be reached is that there is a problem in that market.

3.5 Market evidence

CEG does not carry out any assessment of market pricing to assess whether there has been a barrier to entry but relies entirely on the NERA report for this

input. CEG accepts without qualification that the NERA report "proves" there is no barrier to entry implied by the quantitative analysis carried out by NERA.

As the MEU has demonstrated that there are considerable flaws within the NERA data, the assumption that CEG makes as a result of the NERA analysis must be suspect. Therefore, the qualitative analysis CEG has carried out has greater bearing than might otherwise be the case.

Without the assurance that the NERA analysis is accurate, the conclusion that CEG reaches from its own work implies that, at least in Tasmania and SA, there is a real problem that needs to be addressed

3.6 Evidence from new investment

CEG comments that there has been more than sufficient investment in new generation in the NEM to indicate that there might not be a barrier to entry. The CEG observation is predominantly made on a NEM wide basis rather than specific regions, and CEG comments:

> "…evidence of significant new entry itself would suggest that barriers to entry are not insurmountable." (CEG page 55)

CEG observes that in relation to SA

> "In South Australia, capacity increased by 39 per cent between 2000 and 2011), with new entrants accounting for around one third of the new capacity (albeit most of this represents additions to capacity by one firm, AGL, which entered in 2002)…."the significant investment by new entrants … in the early years of the NEM, in South Australia suggests that barriers to entry [has] not been significant in [that] market. We are somewhat cautious in relation to the South Australian evidence as much of the new investment has been by AGL." CEG pages 58 and 59)

What CEG fails to note is that the large investment in 2000 (Pelican Point base load power station) was incentivised by Government and that the bulk of investment in later years was in non-dispatchable (highly incentivised) wind generation.

To therefore assume that there has been no barrier to new investment in generation as a result of the market prices in 2008-2010 is therefore quite misleading.

3.7 Capacity utilisation

CEG comments that withholding of capacity by a generator could provide a barrier to entry. This observation is also identified by Poyry in its report.

CEG comments:

> "…there is a clear reduction in available capacity [in Tasmania and SA] when prices exceed $250. One possible explanation for this is that high prices are caused by accidental outages, leading to the lack of availability of capacity. A related but different explanation is that South Australian and Tasmanian generators tend to *cause* higher prices by withholding capacity more often than do generators in other States. That is, rather than South Australian and Tasmanian generators failing to increase utilisation in periods of high prices it is the reduction in utilisation that drives high prices." (CEG page 62)

This is the whole issue. Capacity withholding does increase prices and increase volatility and this is the problem that the MEU saw needed to be addressed. CEG considers that the

> "…evidence [of economic withholding] does provide a further basis for being more concerned with competition in South Australia…" (CEG page 64)

CEG specifically notes that

> "…the two Torrens Island power stations owned by AGL represent the most significant combined reduction in capacity – in absolute terms and as a proportion of the generators total portfolio." (CEG page 64)

This statement confirms the concern MEU has with the approach of AGL to using the dominant generator in tandem with the dominant retailer to use capacity withholding as a tool to increase contract market share at higher prices.

Despite the concerns raised by CEG (and the MEU) the AEMC has failed to have regard to these considerations in deciding not to make the proposed Rule. As these matters were drawn to the attention of the AEMC, it must give them due consideration rather than merely ignoring them.

3.8 CEG conclusions

There is no doubt that CEG see the Tasmania and SA markets as providing evidence that there has been both economic withholding and barriers to entry. In relation to SA CEG comments:

> "AGL has a significant market share in South Australia. We found evidence potentially consistent with materially more capacity being withheld to drive up prices in South Australia than any other mainland state. We also found that vertical integration in South Australia is associated with reduced liquidity in contract/futures markets and it is reasonable to question whether, in this context, high volatility in South Australian prices (including frequent negative price spikes) may be creating a barrier to entry by independent non-vertically

> integrated generators (or incumbent generators with limited natural hedge in the form of retail sales) … AGL's ability to enter and become a substantial player in South Australia also suggests that barriers to independent generator entry were not significant earlier in the NEM's history. Of course, AGL's presence as a retailer in South Australia means that this conclusion only holds with regard to theories of barriers to entry that do not rely on independent generators being unable to obtain retail/contract cover." (CEG page 65)

This statement by CEG clearly indicates that there is a problem in the SA market and that AGL being both dominant generator and dominant retailer in the region provides it with both the means and the incentive to use its market power to increase its profitability.

CEG also comments that:

> "…pricing evidence from the NERA/Oakley Greenwood report suggests that barriers to entry are not so significant as to have allowed recent prices to be above LRMC (or that competition among incumbents is effective) – we believe that significant weight should be attached to this evidence as the most direct way to assess whether there are any competition problems." (CEG page 65)

This indicates that CEG relies on the accuracy and appropriateness of the NERA quantitative analysis to make it lean towards the conclusion there is no problem in the SA market. As the MEU analysis clearly shows that the NERA work analysis for SA is in error, then the CEG work does indicate that the MEU contention is that there is a problem in the SA market that highlights a need for a rule change such as that submitted by the MEU in the NEM design.

3.9 Summary of MEU issues with the CEG report

The MEU considers the CEG report provides clear evidence that there are problems in the Tasmanian and SA regions of the NEM. They point to considerable capacity withholding in these regions and clear evidence that this is creating a reduction in capacity utilisation at high price times in the market.

CEG also highlights that vertical integration (such as the combining of the largest generator in a region with the largest retailer in that region) creates a dynamic that increases the barriers to entry of new and independent generation and of strategic behaviour of the dominant generator/retailer in the SA region.

CEG uses the Herfindahl-Hirschman Index (HHI) as an indicator of market concentration and draws conclusions from its use. Concurrently, CEG does make reference to other tools that are available for testing the impacts of market concentration developed especially for electricity markets as the HHI has limited application in electricity markets. The failure to apply such tools is of considerable concern,

Because of its identified concerns for the Tasmanian and SA region markets, the MEU would have expected CEG to carry out a more indepth analysis of the market based evidence. Instead it relied entirely on the NERA report conclusions that implied there was no problem in any of the mainland markets, despite the facts, that CEG had identified some significant concerns in the SA region. This inconsistency and the circularity in the acceptance of the arguments by the AEMC stand out in this review. Indeed, selectivity of views and "cherry picking" of elements from the consultant's report to make findings of fact where other facts are inconsistent with the evidence used by the AEMC (and strongly contested by other stakeholders) raises questions about the review.

In fact this omission by CEG basically shows the circularity of the conclusions reached by the AEMC in its Draft Decision. The CEG report identifies there are considerable reasons for concern yet because the NERA test "proves" there is no problem, the AEMC draws the conclusion that the CEG concerns support a conclusion there is no problem.

4. The Poyry report

The MEU considered that the issues surrounding their rule change request had been inadequately addressed in the AEMC Draft Decision and by its consultants. Further, the MEU noted the concerns the AER has consistently had about the issue of economic withholding by generators.

The MEU had previously commissioned a report (the Henney Report included in appendices 4(a) and 4(b) of the rule change application) on how overseas jurisdictions had addressed the issue of economic withholding and the tools used to identify whether such an activity was likely to occur. This report identified that overseas regulators do not consider the unfettered ability of a generator to economically withhold capacity should be permitted, and that there were various approaches used to limit its exercise.

The fact that the AEMC approach of assessing the impact of the exercise of capacity withholding was unique in the "regulatory world" and its conclusion by using this approach was that was no need to make a rule change, was of sufficient concern that the MEU sought an independent view of the AEMC Draft Decision and the two consultant reports.

Poyry Management Consulting was requested carry out this task. One of the reasons for this decision was that Poyry has acted (successfully) on behalf of a generator in the UK faced with the Ofgem proposed Market Abuse Licence Condition (MALC) which was designed to limit the exercise of the economic withholding of capacity. An AEMC staff member had previously advised the MEU that this successful appeal to the UK Competition Commission had demonstrated that a condition like that proposed by the MEU had been shown to be flawed.

The entire Poyry report is included as appendix 1 to this submission.

Poyry provides a summary of its findings

> "On the basis of the review we conclude that:
>
> - the definition of substantial market power applied by AEMC contrasts with that applied in several other jurisdictions where competitive markets exist and effectively validates particular actions that other regulators have sought to monitor and address – notably exercise of transient or transitory market power;
> - while a balance must be struck between short-run and long-run incentives, there is no robust evidence to suggest that the long run marginal cost (LRMC) metric proposed by the AEMC is the appropriate competitive benchmark or that the price-cost mark-up observed is a justifiable scarcity rent as opposed to an abuse of market power. We would expect to see:

  - evidence to support the conclusion that transitory pricing power does not have a material impact on wider economic performance; and
  - evidence that the observed fluctuations of the annual average wholesale price around the constructed LRMC benchmark can be fully explained by unexpected changes in either demand or supply conditions or entry/exit of generators. This evidence is currently inadequate despite being implied by the AEMC approach;
- the evidence presented by CEG in its report[17] to the AEMC is not sufficient to conclude that the markets do not exhibit entry barriers and therefore that what may be considered transitory pricing power would not be sustained in the long-run;
- the CEG evidence provided for the South Australia market (SA) indicates that there may be a situation of substantial market power in that region – the behavioural indices do not provide conclusive evidence that the market is operating competitively or that entry barriers do not exist;
- interaction between retail and generation markets that was indicated as an important factor for consideration in the Peer Review[18] of the technical paper has not been addressed despite there being concerns raised by CEG regarding the impact of vertical integration in the South Australian market; and
- there is no analysis of the actions of individual generators (e.g. bid levels or declared availability patterns) during observed price spikes, though this is something that we would expect any competition assessment to cover. Indeed, in its submission[19], the AER notes that while the exercise of market power by individual generators is harmful and has clear efficiency effects' the general approach applied by the AEMC risks by-passing these market power impacts. (Poyry page 2)

Poyry provides its conclusions as follows:

"In summary, we find that:

- The characteristics of the power market mean the definition of substantial market power applied by AEMC does not capture a range of actions/behaviour that can have a material detriment on consumers. No evidence has been presented to indicate that this risk does not exist in the NEM.
- The focus on LRMC assumes that the market is contestable – but the evidence does not adequately support this conclusion, especially for SA and Tasmania. In South Australia, the CEG report indicates that there may be ongoing market power concerns. Whether these are structural, they imply that transitory pricing power may be more persistent than the AEMC methodology assumes.

[17] 'Barriers to Entry in Electricity Generation: A report outline for the AEMC', CEG, June 2012
[18] CoRE research, July 24, 2011
[19] AER, November 11 2011

- There is insufficient evidence to support the conclusions that substantial market power does not exist. Specifically, (a) there is no evidence to determine that annual average prices are at an efficient level given underlying market conditions; and (b) that there are no significant barriers to entry and expansion.
- CEG does not appear to have considered sector-specific advice that has been applied in other energy markets that accounts for the potential transient pricing power that exists in the power sector. We would expect that they would have reviewed the standard short-term structural indicators such as the pivotal and residual supply indices that have replaced the HHI in several aspects of market monitoring activity.

In its Draft Determination, the AEMC states that it 'considers that the assessment framework and approach adopt[ed] for this rule change request provide a framework within which market participants and other stakeholders can assess whether at any time in the future issues of substantial market power in the NEM arise'.

From our review, we cannot conclude that the framework is fit for purpose and that it meets an appropriate threshold for application." (Poyry pages 17 and 18)

The MEU considers that the advice from Poyry is balanced, well thought out and addresses the issue of economic withholding which is an aspect that the Draft Decision does not address to much extent.

To a significant degree the Poyry views reflect those comments that the independent energy market regulator AER has provided in a number of its reports to the electricity market regarding high price events, in its State of the Energy Markets reports and in its submissions to the AEMC processes relating to this rule change proposal.

The MEU would expect, in an evidenced based review on such a major issue as that raised in the MEU rue change proposal, to see robust evidence to support the AEMC Draft Decision conclusion that there is no "significant and sustained problem with the efficient functioning of the market.

5. MEU comments on Draft Decision

Overall, the MEU considers the AEMC draft report on the proposed rule change to limit market power of generators to be both disappointing and disturbing. Disappointing because its conclusions rely on flawed assessments by its consultants and disturbing because it implicitly encourages the use of economic withholding provided that the outcomes of this practice do not consistently exceed the average incremental LRMC of a new entrant generator.

The AEMC Draft Decision is based very heavily on the framework and approach of the NERA report although the Draft Decision does refer to those elements of the CEG report which the MEU actually considers support the conclusion that there is reason to consider a rule change.

In earlier sections the MEU has addressed in detail its concerns with the NERA and CEG reports and has introduced commentary from other reports that have been provided to the AEMC throughout this process of assessing the need for a rule change to address the economic withholding of capacity by generators.

The Draft Decision reaches the conclusion that the average performance of the markets in the mainland NEM regions is such that there is no evidence of substantial harm to consumers by economic withholding of capacity and nor have there been barriers to entry of new generation in any region.

The AEMC does not disagree that economic withholding is occurring in the NEM. What it asserts is that the cost to consumers of this activity (the exercise of transient market power) is permissible because it does little harm to consumers and if prevented might deter investment in new generation.

Because of this assertion by the AEMC, as well as seeking an independent assessment from a UK consultant of the Draft Decision and the consultants' reports, the MEU also sought legal advice regarding the responsibilities of the AEMC in regard to its assessment of the issue.

5.1 A legal overview of the AEMC approach

The MEU commissioned a legal review[20] of the process that the AEMC must undertake when it assesses a rule change proposal. This was undertaken by Dwyer Lawyers.

The AEMC is required under the National Electricity Law, to ensure that its actions are to benefit consumers through application of the National Electricity Objective (NEO). Thus where a rule change is proposed, the AEMC must test the proposed rule (or a better rule) both in terms of assessing the extent to

[20] The legal advice received by the MEU is appended to this submission as appendix 3

which the new rule will provide a net benefit in the interests of consumers and whether not making the rule will provide a greater net benefit to consumers. Simply put, the AEMC must quantify whether the net benefit of the making the rule (or a better rule) is exceeded by the net benefit of not making the rule.

To achieve this outcome, the AEMC must address the basis on which the rule is proposed. In this case the rule change proposal was to limit the ability of a small number of generators in the NEM from exercising market power through economic withholding of capacity. The rule proposed by the MEU demonstrated that there was a net economic detriment to consumers by the exercise of market power by some generators.

Rather than addressing this, the AEMC has proposed an alternative proposition which is that there must be a substantial exercise of market power to establish if a new rule is to be implemented.

Our legal advice is that it is simply not sufficient for the AEMC to decide that "on average the market works" which is all that it has done. By taking this approach, the AEMC has essentially failed to address the premise that underlies the rule change proposal.

We are advised that to address the rule change proposal, the AEMC is required to assess the rule change in terms of the NEO. It must consider the particular conduct proscribed by the proposed rule change and whether outlawing that conduct contributes to efficiency in the long term interests of consumers. It is only by showing that permitting the continued use of the conduct is efficient (as understood in the NEO) can the AEMC determine that no rule change should be made.

To a significant extent, the legal view of the Draft Decision mirrors the economic view of the Draft Decision provided by Poyry – that the Draft Decision has not addressed the issue of economic withholding which is the basis on which the rule change was proposed, nor has robust evidence been provided to arrive at the AEMC conclusion.

The peer review by Professors Gans and King of the NERA approach to the issue reinforces the Dwyer and Poyry view of the rule change proposal. They comment:

> "In conclusion, the NERA report reviews the standard approach to assessing market power in wholesale electricity markets. However, we note that analyses of market power should be purposive – that is, reflect the nature of the competition question being addressed. **We note here that this may necessitate an approach that takes explicit account of what the MEU's proposed rule is aimed at achieving and whether that rule's use of market power or "dominance" is consistent with objectives both of competition policy and of economic efficiency**." (Gans/King page 5, emphasis added)

To summarise the Dwyer advice:

The MEU rule change was about:

- Addressing the outcomes of economic withholding
- Economic withholding is inefficient and causes consumers harm
- The proposed rule would limit this harm

Rather than addressing the MEU concern, what the AEMC Draft Decision does is:

- Assess whether prices have exceeded costs by an unspecified amount for an unspecified duration[21] (the AEMC definition of substantial market power)
- Where prices have exceeded costs, to cursorily examine reasons why this might have occurred
- Where prices do exceed costs by an unspecified amount and for an unspecified period, and there is evidence that there is a barrier to entering the market because of the reasons that might have caused the prices to exceed costs, to assess whether there is a need for action.

The AEMC approach simply does not address the focus of the rule change proposal which is to minimise the harm from the economic withholding of capacity that has frequently occurred in the NEM.

There is no doubt that the AEMC framework has not addressed the issue that the rule change proposed is to address and therefore the conclusion that the AEMC Draft Decision has reached, is quite invalid.

5.2 Quantification of the benefit/detriment of the proposal

The Draft Decision has not attempted to address either the detriment caused to consumers by the decision to allow the continued use of economic withholding of capacity. There can be little doubt that, if generators economically withhold capacity from the market, the intention is to garner increased revenue. As this additional revenue must come from consumers, then allowing economic withholding of capacity provides prima facie evidence that there is a detriment to current and future consumers.

To support this prima facie evidence, the AER had commissioned IES to quantify the cost to consumers of the bidding practices on 11 specific days in the years 2008, 2009 and -2010. In its report to the AER, IES quantified that

[21] In its Draft Decision, the AEMC directions paper considered that the duration of higher prices than costs might be 2-3 years (DD page 15) but the Draft Decision does not specify a duration for which it considers the prices might exceed costs.

there had been over $15m of inefficient costs added to the market from just these 11 days. IES concluded that:

> "… material economic costs incurred associated with inefficiencies in generator dispatches due to uncompetitive bidding." (IES page 22)

This quantification clearly identifies that considerable harm has occurred but this evidence is ignored by the AEMC, although AEMC consultant CEG does refer to the IES report in its assessment.

At the same time, the Draft Decision has to prove its contention that eliminating economic withholding from the market will provide a detriment to consumers. The AEMC has asserted, but not proven, that the constraint on this behaviour will result in a detriment to consumers. If a detriment can be proven, then the AEMC must then quantify this detriment so that it can be balanced against the benefit to consumers that will result from preventing economic withholding[22].

The fact that regulators in other jurisdictions have acted to prevent the economic withholding of capacity but who have not seen a net detriment provides prima facie evidence that there probably is no net detriment to consumers by this action.

The Draft Decision does attempt to compare whether there is some outturn market evidence that there has been an economic detriment to consumers from economic withholding. All the AEMC framework does is compare prices to the average incremental long run marginal cost for providing new generation to the market. The AEMC has posited a view that prices for electricity should average the cost that a new entrant to the market would incur if the market is competitive. This view is an assertion and has been challenged by Poyry.

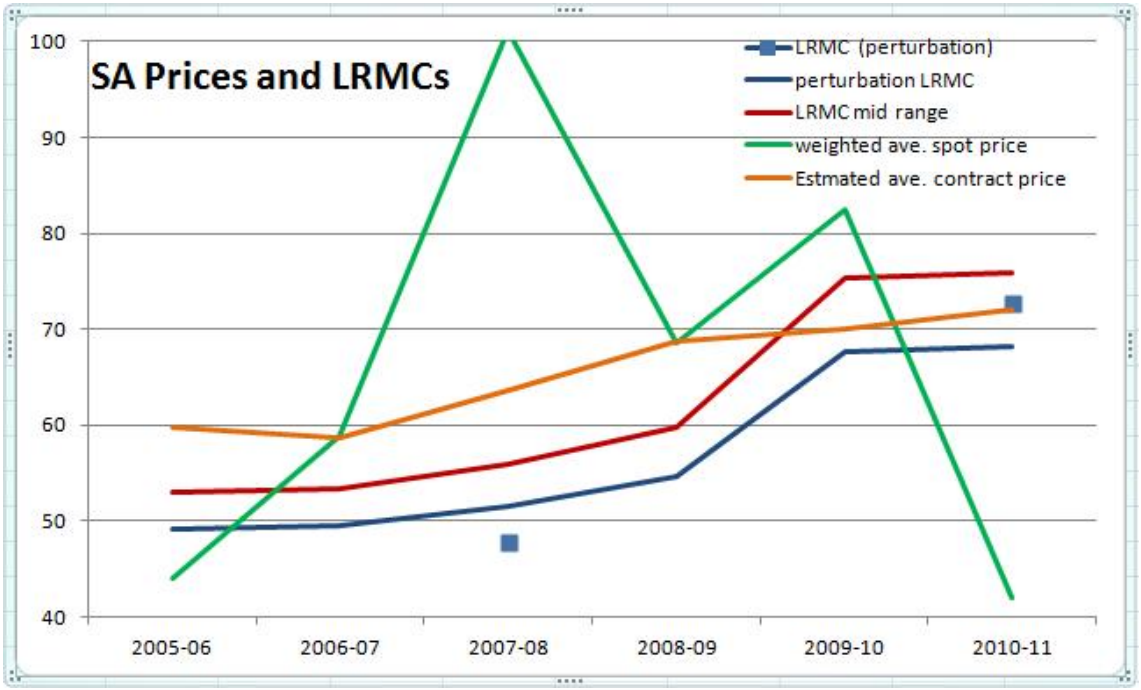
Poyry is of the view that prices are more likely to reflect the need for additional generation in a region and that it is scarcity of supply that increases the price for electricity. This view of Poyry is generally reflected by the two consultants that the AEMC has employed to assess the rule change proposal. All three consultants seem to be of the same view that the perturbation approach (developed by Turvey) to assessing the need for new generation is a more accurate assessment of the cost of generation.

If the AEMC view is correct, then outturn prices would oscillate above and below the average incremental average long run marginal cost for providing new generation.

To assess the AEMC contention, the MEU has used the data for SA region provided by NERA in its report and calculated the average incremental long run

[22] In relation to this, the MEU has provided considerable actual data and experiences from members that considerable harm has been imposed on consumers by economic withholding of capacity.

marginal costs of new entrant generation[23]. The MEU then used this curve to plot a curve which best fits the two points NERA calculated using the perturbation approach[24].



Source: NERA data, MEU computation

The chart does not reflect the AEMC conclusion that the price curves have oscillated about the costs curves, with average prices reflecting average costs. Over the six year period, prices consistently exceed costs. The spot price averages $73.6/MWh and the contract price averages $68.7/MWh, the average incremental LRM cost curve averages $66.7/MWh and the curve of best fit to the perturbation points averages $$60.5/MWh.

In addition, the MEU has quantified the costs to consumers when the premium prices exceed costs and summarised these in the following table.

$m	**05/06**	**06/07**	**07/08**	**08/09**	**09/10**	**10/11**
Volume TWh	12.8	13.3	13.3	13.5	13.4	13.5
Cost of premium (to AIC)	86	69	101	123	(70)	(53)
Cost of premium (to perturbation points)			217			(9)

[23] The MEU has in section 2 indicated that these costs might be overstated and the prices understated making the differences even greater.
[24] The MEU accepts that this is purely an approximation of what the perturbation approach might provide

This shows that there was considerable harm to consumers over the six year period, but the AEMC supports the NERA view that these costs are those that would be expected.

The AEMC framework shows that prices exceed costs consistently over a six year period, therefore supporting the contention that there has been a significant cost and harm to consumers in the SA region. For this to have occurred, there must be a fundamental cause, but the Draft Decision accepts without question the advice from NERA that the cause was a heat wave and limited interconnector capacity for a two week period during March 2008.

The accepted cause for prices to exceed costs is that there is a scarcity of generation yet AEMO's Electricity Statements of Opportunity have shown consistently that there was not scarcity of supply in the SA region. The CEG report to AEMC indicates that there has been evidence of economic withholding yet the AEMC does not investigate this aspect at all.

The Draft Decision does not examine in detail why there is a significant premium between its prices and costs, and simply accepts the NERA contention that the prices were high due to a 2 week heat wave in March 2008 when the interconnector was operating below rated capacity.

5.3 Impact on electricity consumers

The Draft Decision devotes considerable time to demonstrating that the exercise of transient market power is different to substantial market power, and implies that transient market power does little harm to consumers. The MEU points out in section 5.1 that its rule change is not about substantial market power (which is what the AEMC attempts to address) but about the exercise of transient market power.

Transient market power is achieved by economic withholding of capacity and makes the market less efficient. An inefficient market has higher costs than an efficient market. This outcome has been demonstrated by the IES analysis carried out for the AER where it quantifies the cost of economic withholding that occurred on 11 specific days during the three year 2008-2010 period.

These costs are recovered either directly or indirectly from consumers. So at a high level, the AEMC cannot assert that transient market power does not cause harm to consumers because the quantification work shows that it has caused harm.

In the case of residential consumers, the Draft Decision points out that retail price caps are set on the basis of average incremental long run marginal costs of new entrant generation. Therefore, residential consumers are not exposed to a price premium should market prices exceed LRMC. This argument is wrong. In practice the retail price cap is designed to provide "head room" so that there can be competition between retailers in the zone beneath the cap. What the

Draft Decision fails to highlight that if transient market power is exercised by the dominant retailer/generator, then other retailers are not able to secure hedging contracts that allow them to operate under the retail price cap. Exclusion of competing retailers allows the dominant retailer/generator to retain the premium between the actual costs and the price cap.

The AEMC then advises that large users would implement risk mitigation strategies to ensure that the impacts of the swings in wholesale prices over time are minimised. By doing this, the AEMC seems to assume that the costs from the exercise of transient market power will be avoided.

This assessment by the AEMC totally avoids the basic fact that transient market power can and has been used by a generator to increase its revenue. This additional revenue must come from the market and it is consumers that incur the costs of the market. In a competitive market, there is no ability to exercise transient market power. To demonstrate this, the MEU provided confidential information to the AEMC on the considerable welfare consequences of the economic withholding. The AEMC is required to maximise the efficiency of the market operations as this is the objection to the National Electricity Law.

The only way the AEMC can prove that transient market power should be permitted, is by quantifying the detriment that restricting this exercise and balancing that against the benefit that preventing it will achieve. This, the Draft Decision has failed to do, or even attempt.

5.4 Barriers to entry

The Draft Decision notes that the CEG report indicates there may be barriers to entry in SA and that there is considerable concern about Tasmania.

The Draft Decision highlights the areas that CEG consider lead to the conclusion that there may be a problem with barriers to entry in SA. The Draft Decision then notes that CEG accepts the quantitative analysis of NERA that this evidence provides a view that barriers to entry in SA (and the other mainland regions) is not a regulatory concern.

The Draft Decision notes some qualification to this assessment is needed, but despite these qualifications, it concludes there is no problem, even in SA.

The MEU considers that the assessment by the AEMC of the concerns that CEG does raise when taken together with those of the AER consultant SFS (see section 1.3 above) the conclusions that AEMC reaches would appear to be extremely unrealistic of the actual situation.

5.5 Justification for regulatory intervention

The Draft Decision posits that to justify intervention the AEMC must be satisfied that:

> "… a significant and sustained shortcoming with the rules has been identified that warrants regulatory intervention;" (DD page 46)

The MEU disagrees. It considers that the NEO requires the AEMC to be satisfied that the regulatory intervention must increase efficiency of the market.

The change made by the AEMC to this greater level of proof is not required by the NEL. The NEL only requires the market to be efficient in economic terms as the second reading speech quite clearly details.

The Draft Decision states that:

> "The Commission does not consider that sufficient evidence of a problem exists that requires a change to the rules on the basis of:
>
> - a short period of history in each NEM region where annual average prices exceeded the competitive level due to certain supply and demand conditions, which increased the reliance on the dispatch of higher merit order plant and increased the ability of some large generators to exercise transient pricing power; and
>
> - precursory signs of market concentration and reduced contract market liquidity in South Australia that may be consistent with the existence of barriers to entry but for which evidence is not definitive and does not suggest current significant impediments to investment." (DD page 47)

The analysis and corrections of flaws in the work provided in sections 2 and 3 above does not provide support for these contentions when applied to the SA and Tasmanian regions.

In particular:

- Even the report of the AEMC consultant NERA indicates that prices considerably exceeded costs in the SA region for a four year period of time
- The report of the AEMC consultant CEG indicates that in the SA region, there are concerns regarding the exercise of transient market power

The independent energy regulator (AER) would appear to disagree with the conclusions based on its previous submissions to the AEMC and the reports it commissioned from IES and CEG.

The Poyry report for the MEU does not support the contentions and even raised questions about the availability of evidence.

Other consumer groups have expressed disquiet with the AEMC approach and the views it has expressed. They have also noted that on a fair and reasonable assessment, even the flawed NERA data supports a conclusion there is a problem in SA.

5.6 Summary of MEU issues with the Draft Decision

By the AEMC changing the basis on which it is assessing the proposed rule change the AEMC has "defined away" the problem identified by the rule change proposal. The AEMC has not addressed the issue raised by the MEU which is that economic withholding is not efficient and causes harm to consumers.

The new definition proposed by the AEMC is inconsistent with competition authority definitions and with definitions used elsewhere in energy markets.

Even with the flawed approach used by the AEMC, the conclusion the AEMC reaches is inconsistent with the evidence the approach provides. Just as concerning is that the AEMC has tended to ignore evidence that does not support its contention.

The Draft Decision effectively endorses the continued use of economic withholding in the NEM. The practice of economic withholding has been widely identified as being economically inefficient in electricity markets. Because of this, its use has been constrained in US markets (Poyry specifically cites PJM and California and EEE Ltd cites more), and most recently in the UK market through the imposition of the Transmission Constraint Licence Condition (TCLC) and in Europe through the Regulation on Energy Market Integrity and Transparency (REMIT) and other controls.

The MEU is most concerned that the AEMC proposes to use the current flawed approach as a test for future market analysis. By the overt allowance by a generator to economically withhold capacity, a future generator with market power can use its power unfettered unless the outturn prices exceed new entrant average incremental costs by up to 20% for a period of four years or more before the AEMC might consider readdressing the concerns raised by the MEU[25].

If an inefficiency in the operation of the electricity market is brought to the attention of the AEMC and a rule change is proposed to minimize the harm to consumers that the inefficiency causes, the NEO requires the AEMC to implement the rule (or a better rule) if it increases the efficiency of the operation of the market and provides a net benefit to consumers. The AEMC has failed to do this.

[25] This quantification comes from the flawed NERA data. A fair and reasonable assessment would support a view that a 20% premium for such a long period does not support a conclusion that there is not a problem

Appendix 1 – The Poyry Report

Appendix 2 – Qualifications of the project staff used by Poyry

Pöyry Management Consulting is a global consulting and engineering firm. Its in-depth expertise extends across the fields of energy, industry, urban & mobility and water & environment.

Pöyry plc has 7000 experts operating in 50 countries and net sales of EUR 682 million (2010).

Pöyry provides leading-edge consulting and advisory services covering the whole value chain in energy, forest and other process industries. Our energy practice is the leading provider of strategic, commercial, regulatory and policy advice to Europe's energy markets. Its energy team of 200 specialists, located across 14 European offices in 12 countries, offers unparalleled expertise in the rapidly changing energy sector.

DR GARETH DAVIES, Director, Pöyry

Educational Qualifications

D Phil Economics 1994 -2002 University of Oxford, UK

M Phil Economics 1992 -1994 University of Oxford, UK

MA (Hons), Economics 1989 -1992 University of Cambridge, UK

Key Experience

Gareth is a well respected energy sector professional with over 16 years of experience in energy market and policy analysis. He is the current Chair of the British Institute of Energy Economics and sits on several energy industry advisory groups including the UK Ministerial Contact Group on Distributed Energy and the Which? energy advisory panel. He has worked across the energy sector with private and public sector organisations in the UK and internationally and has just completed a role as key financial and economics expert for a major European funding organisation undertaking due diligence on a range of innovative renewable technologies.

He has advised on regulatory price-controls, government policy and market design options. Gareth has provided oral evidence to the UK Competition Commission and acted as an expert witness in the Scottish Court on wholesale and retail energy market issues. His main areas of expertise include:

- Strategic and Commercial Analysis
- Energy Regulation
- Energy and Environmental Policy Analysis
- Market Design and Analysis
- Energy Market Competition and Liberalisation

Recent Career History

1996 - 2007: Oxera Consulting, Managing Consultant
1994 – 1996: College Lecturer at ChristChurch and New Colleges, Oxford

SIMON BRADBURY, Principal Consultant, Pöyry

Educational Qualifications

MSc Economic Regulation and Competition: Merit 2002 -2004 City University, UK

BA (Hons) Economics and Business Management: 2:1 1995 - 1999 University of Newcastle-upon-Tyne, UK

Key Experience

- Market design, policy and regulation expertise in EU
- Specialist in GB gas and electricity markets and in the Irish electricity market
- Excellent understanding of the economic theories and concepts that apply to the operation and regulation of the gas and electricity markets and application of this knowledge to the evaluation of commercial opportunities

Recent Career History

6 years: Ofgem, Senior Manager

Appendix 3 – Legal advice regarding the AEMC obligations

Dwyer Lawyers

Principal

Terence M. Dwyer FTIA
B.A. (Hons), B.Ec. (Hons) (Sydney)
M.A., Ph.D. (Harvard), Dip. Law (Sydney)

Associate

Deborah R. Dwyer FTIA
B.A. (cum laude), M.A. (Smith)
LL.B. (ANU), LLMCL (NTU)

17 July 2012

Mr Bob Lim
Major Energy Users Group
Suite 504, Level 5
80 Clarence Street
SYDNEY NSW 2000

Dear Bob

AEMC DRAFT DETERMINATION

I attach our memorandum regarding the AEMC's draft determination to make no Rule for the electricity market in relation to price spiking.

Kind regards

Terry Dwyer

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MEMORANDUM OF ADVICE

AEMC DETERMINATION LIABLE TO BE SET ASIDE

We have been asked to examine the Draft Determination of the Australian Energy Market Commission (AEMC) not to adopt the Rule proposed by the Major Energy Users' Group (MEU) to deal with economic or physical withholding of generator capacity which triggers price spiking.

For this purpose, we have perused the Draft Determination, and the two reports by its consultants, NERA and CEG, as well as material supplied to us by the MEU, including the Poyry report.

In our opinion, the Australian Energy Market Commission (AEMC) has erred in its Draft Determination.

The AEMC has:

- misunderstood the objective of the National Electricity Law (NEL) and the AEMC's statutory duty;
- *de facto* delegated its fact finding duty to third party consultants; and
- made errors of fact and of law including errors of logic (irrationality);

Objective of NEL and AEMC's statutory duty

Section 7 states the National Electricity Objective (NEO) as directed to "*efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity*"

Under section 34(1), the AEMC may make rules for the national electricity market.

Section 32 of the NEL states that, in making Rules, *the AEMC must have regard to the national electricity objective*". This is reinforced by section 99(2)(a)(i) which requires the AEMC to give reasons for its draft determinations as to how the draft determination contributes to achieving the NEO.

Part 7 of the NEL covers the making of the National Electricity Rules.

Under section 88(1), the AEMC may "*only make a Rule if it is satisfied that the Rule will or is likely to contribute to the achievement of the national electricity objective*".

There is thus a conservative bias against making a Rule, in that the AEMC has to be so satisfied.

But that is *not* an excuse for doing nothing. The AEMC *must* test the proposed Rule against the NEO. It cannot dismiss the question of making a proposed Rule without explaining why the proposed Rule would fail to contribute to the NEO.

By contrast, in this case, the AEMC has failed completely to explain how economic or physical withholding and abusive price spiking is "efficient" or in "the long term interests of

consumers". It has thus ignored its duty to have regard to the NEO in making its draft determination.

Under section 99(2), the AEMC must give reasons for its draft determinations. Thus, in this case, the AEMC has a duty to explain how leaving matters alone so that there can be price spiking through economic or physical withdrawal ("price spiking") contributes to the NEO. It is not enough for the AEMC to say "on average, the market works". It must examine whether economic withholding causing price spikes is acceptable market conduct which is what the proposed Rule is directed at. Such examination of price spiking must address the welfare implications to both current consumers as well as future consumers.

For the AEMC to determine not to make the proposed Rule, the AEMC must conclude, on the evidence before it, that either:

1. economic withholding causing price spiking is efficient or,
2. if the AEMC finds economic withholding causing price spiking is not efficient, that the proposed Rule will do more harm than good in terms of achieving the NEO.

If it reaches the second conclusion, then the AEMC ought also consider whether it might make a more preferable Rule under section 102A to deal with the price spiking market problem through economic withholding, if it finds there is some (yet undiscovered) problem with the Rule change sought

The AEMC will therefore be in breach of its statutory duty should it determine not to make a Rule, given the evidence before it as to price spiking in South Australia, if it fails to deal the question of whether price spiking is efficient or not and in the long term interests of consumers.

Instead, what the AEMC has *implicitly* done is conclude that price spiking is efficient and in the long-term interests of consumers – but without looking at, or dealing with, that precise question or the evidence before it.

Invalid delegation its fact finding duty by AEMC

The AEMC is charged with the duty of making findings of fact in deciding to make Rules.

It cannot delegate that duty to a consultant's report (such as that produced by NERA) or "cherry pick" from this or that report to make "findings of fact", where those "facts" are inconsistent with other evidence before the AEMC – and indeed strongly contested by other witnesses.

The AEMC must give properly considered reasons where it prefers to find fact X established by the evidence of witness A over fact Y as in the evidence of witness B. This has not been done in the AEMC's published reasons (for doing precisely nothing).

Errors of fact

In abdicating its duty to find facts, the AEMC has drawn conclusions based on "facts" which are erroneous and/or distortive.

In particular, on the material we have seen, the NERA consultant's LRMC graphs upon which it has relied are erroneous or misleading. Essentially, the LRMC graphs are alleged to overstate costs and understate prices, so that the AEMC cannot rely upon them to reach any conclusions about market efficiency (assuming that the graphs are relevant to that question).

Errors of logic (irrationality)

The AEMC has completely missed the point of the Rule request. Those requesting the Rule change did *not* contend that national electricity market was so far imperfect as not to represent some sort of workable competition in the *aggregate* or on *average* over the years.

They *did* contend that, notwithstanding the "average" or "aggregated" experience of the market across Australia over several years, there were nonetheless specific identified cases of price spiking where the market had behaved in a way which was not "efficient" to the serious detriment of users without any long-term benefit.

The AEMC simply failed to address the question of economic withholding causing price spiking. It therefore made a fundamental error of logic in thinking a report on the *aggregate* or *average* behaviour of the market meant no Rule was justified to deal with economic or physical withholding leading to price spiking in specific cases.

The AEMC has failed to conduct, or cause to be conducted, any forensic examination of the evidence put to it of precise cases where there were alleged market abuses. No investigation of the market conduct of the Torrens Island Power Station was conducted. No one was examined on oath as to the reasons for capacity withdrawal.

To take an analogy, this is as irrational as it would be for the ASX to decide that no rules were required to prevent false bids or offers or to deal with short selling squeezes because, most of the time, cases such the late Gordon Barton's famous squeeze of the Sydney stockbrokers shorting Antimony Nickel do not occur.

The AEMC has ignored the *question* before it as to the inefficiency of the practice of price spiking and ignored the *evidence* as to the inefficiency and costs imposed on consumers past, present and future.

Instead the AEMC substituted a different question with different answers based on different evidence as to that different question. It has failed to deal with a "micro" question by pretending that the "macro" is satisfactory on average.

That is as irrational as deciding that there should be no rules on aviation safety because, on average, market participants' interest in their long-term reputations for not killing people will mean the aviation market will work in the interests of consumers – and, for those cases where consumers die, they can sue in tort. Whatever the merits or demerits of such a view, it is not one enshrined in aviation law, and, likewise, it is one that has not commended itself to legislatures dealing with the supply of an essential service such as electricity – especially when those legislatures were breaking up pre-existing State monopoly suppliers.

Judicial Review

If the AEMC proceeds with its determination to make no Rule, that decision may be either subject to merits review in the Australian Competition Tribunal (ACT) or judicial review in the Federal Court or both, depending on the Act.

However, it appears that the ACT reviews *AER* revenue and pricing determinations as set out in section 71B. Thus, the ACT does *not* have jurisdiction to review an *AEMC* determination as to making a Rule.

Under section 70(1), a decision of the AEMC is subject to judicial review by the Federal Court.

If the AEMC persists in its errors in its final determination, those errors could thus found an action in the Federal Court to have the decision set aside and remitted back to the AEMC to make its decision according to law (in plain English, to do the job properly).

Class actions

Not only is the AEMC draft determination to do nothing fatally flawed in terms of administrative law requirements but if the AEMC is so unwise as to persist in refusing to deal properly with the documented problems of price spiking, it runs the risk of exposing the Commonwealth and others to suit.

If the AEMC refuses to make a Rule and price spiking occurs again in South Australia or elsewhere, users will be able to quantify their losses against what would have occurred under the proposed Rule. Having assessed the quantum of their damages, they would be able to say "This would not have occurred but for the failure of the AEMC to do its duty and the negligence of its consultants".

The AEMC's failure to deal properly with the MEU request for a Rule to prevent price spiking abuses could thus mean that South Australian users would be entitled to launch a class action against the AEMC (and, it seems, NERA) in respect of any future such abuses. Section 121 quite properly leaves open common law claims for losses suffered by negligence or breach of statutory duty.

A claim for breach of statutory duty and negligence will be the more easily made out if the AEMC has been placed squarely on notice and still proposes to refuse to act. A wilful, rather than inadvertent, breach of statutory duty will be much easier for users to prove.

Conclusion

The AEMC will have failed to carry out its statutory duty if it persists in its determination to do nothing on the basis of the Draft Determination.

Terence Dwyer

18 July 2012

Extracts from National Electricity Law

2—Definitions

(1) In this Law—

.....

network service provider means a Registered participant registered for the purposes of section 11(2) that owns, controls or operates a *transmission system or distribution system* that forms part of the interconnected national electricity system;

.....

7—National electricity objective

The objective of this Law is to promote *efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity* with respect to—

(a) price, quality, safety, reliability and security of supply of electricity; and

(b) the reliability, safety and security of the national electricity system.

7A—Revenue and pricing principles

(1) The revenue and pricing principles are the principles set out in subsections (2) to (7).

(2) A *regulated network service provider* should be provided with a reasonable opportunity to recover at least the efficient costs the operator incurs in—

(a) providing direct control network services; and

(b) complying with a regulatory obligation or requirement or making a regulatory payment.

(3) A *regulated network service provider* should be provided with effective incentives in order to promote economic efficiency with respect to direct control network services the operator provides. The economic efficiency that should be promoted includes—

(a) efficient investment in a distribution system or transmission system with which the operator provides direct control network services; and

(b) the efficient provision of electricity network services; and

(c) the efficient use of the distribution system or transmission system with which the operator provides direct control network services.

(4) Regard should be had to the regulatory asset base with respect to a *distribution system or transmission system* adopted—

(a) in any previous—

(i) as the case requires, distribution determination or transmission determination; or

(ii) determination or decision under the National Electricity Code or jurisdictional electricity legislation regulating the revenue earned, or prices charged, by a person providing services by means of that distribution system or transmission system; or

(b) in the Rules.

(5) A price or charge for the provision of a direct control network service should allow for a return commensurate with the regulatory and commercial risks involved in providing the direct control network service to which that price or charge relates.

(6) Regard should be had to the economic costs and risks of the potential for under and over investment by a regulated network service provider in, as the case requires, a *distribution system or transmission system* with which the operator provides direct control network services.

(7) Regard should be had to the economic costs and risks of the potential for under and over utilisation of a *distribution system or transmission* system with which a regulated network service provider provides direct control network services.

.....

34—Rule making powers

(1) Subject to this Division, the AEMC, in accordance with this Law and the Regulations, may make Rules, to be known, collectively, as the "National Electricity Rules", for or with respect to—

(a) regulating—

(i) the *operation of the national electricity market*;

(ii) the operation of the national electricity system for the purposes of the safety, security and reliability of that system;

(iii) the activities of persons (including Registered participants) participating in the national electricity market or involved in the operation of the national electricity system;

(iv) the provision of connection services to retail customers; and

(aa) facilitating and supporting the provision of services to retail customers; and

(b) any matter or thing contemplated by this Law, or is necessary or expedient for the purposes of this Law.

Note—

The procedure for the making of a Rule by the AEMC is set out in Division 3 of Part 7.

(2) Without limiting subsection (1), the AEMC, in accordance with this Law and the Regulations, may make Rules for or with respect to any matter or thing specified in Schedule 1 to this Law.

(3) Rules made by the AEMC in accordance with this Law and the Regulations may—

(a) be of general or limited application;

(b) vary according to the persons, times, places or circumstances to which they are expressed to apply;

(c) confer functions or powers on, or leave any matter or thing to be decided or determined by—

(i) the AER, the AEMC, AEMO or a jurisdictional regulator; or

(ii) the Reliability Panel or any other panel or committee established by the AEMC; or

(iii) any other body established, or person appointed, in accordance with the Rules;

(d) confer rights or impose obligations on any person or a class of person (other than the AER, the AEMC or a jurisdictional regulator);

(e) confer a function on the AER, the AEMC, AEMO or a jurisdictional regulator to make, prepare, develop or issue guidelines, tests, standards, procedures or any other document (however described) in accordance with the Rules, including guidelines, tests, standards, procedures or any other document (however described) that leave any matter or thing to be determined by the AER, the AEMC, AEMO or jurisdictional regulator;

(f) empower or require any person (other than a person referred to in paragraph (e)) or body to make or issue guidelines, tests, standards, procedures or any other document (however described) in accordance with the Rules;

(fa) provide for procedures governing the operation of the national electricity market and the sale and supply of electricity to retail customers;

(g) apply, adopt or incorporate wholly or partially, or as amended by the Rules, the provisions of any standard, rule, specification, method or document (however described) formulated, issued, prescribed or published by any person, authority or body whether—

(i) as formulated, issued, prescribed or published at the time the Rules are made or at any time before the Rules are made; or

(ii) as amended from time to time;

(h) confer a power of direction on the AER, the AEMC, AEMO or a jurisdictional regulator to require a person conferred a right or on whom an obligation is imposed under the Rules (including a Registered participant) to comply with—

(i) a guideline, test, standard, procedure or other document (however described) referred to in paragraph (e), (f) or (fa); or

(ii) a standard, rule, specification, method or document (however described) referred to in paragraph (g);

(i) if this section authorises or requires Rules that regulate any matter or thing, prohibit that matter or thing or any aspect of that matter of thing;

(j) provide for the review of, or a right of appeal against, a decision or determination made under the Rules and for that purpose, confer jurisdiction on the Court;

(k) require a form prescribed by or under the Rules, or information or documents included in, attached to or given with the form, to be verified by statutory declaration;

(l) in a specified case or class of case, exempt—

(i) AEMO; or

(ii) a Registered participant or class of Registered participant; or

(iii) any other person or body performing or exercising a function or power, or conferred a right, or on whom an obligation is imposed, under the Rules or a class of any such person or body,

from complying with a provision, or a part of a provision, of the Rules;

(m) provide for the modification or variation of a provision of the Rules (with or without substitution of a provision of the Rules or a part of a provision of the Rules) as it applies to—

(i) AEMO; or

(ii) a Registered participant or class of Registered participant; or

(iii) any other person or body performing or exercising a function or power, or conferred a right, or on whom an obligation is imposed, under the Rules or a class of any such person or body;

(n) confer an immunity on, or limit the liability of, any person or body performing or exercising a function or power, or conferred a right, or on whom an obligation is imposed, under the Rules;

(o) require a person or body performing or exercising a function or power, or conferred a right, or on whom an obligation is imposed, under the Rules to indemnify another such person or body;

(p) contain provisions of a savings or transitional nature consequent on the amendment or revocation of a Rule.

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Division 3—Judicial review of decisions and determinations under this Law, the Regulations and the Rules

70—Applications for judicial review

(1) A person aggrieved by—

(a) a *decision or determination of the AEMC* or AEMO under this Law, the Regulations or the Rules; or

(b) a *failure by the AEMC* or AEMO to *make a decision or determination* under this Law, the Regulations or the Rules; or

(c) conduct engaged in, or proposed to be engaged in, by the AEMC or AEMO for the purpose of making a decision or determination under this Law, the Regulations or the Rules,

may apply to the Court for judicial review of the decision or determination, failure or conduct or proposed conduct.

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71B—Applications for review

(1) An affected or interested person or body, with the leave of the Tribunal, may apply to the Tribunal for a review of a *reviewable regulatory decision.*

reviewable regulatory decision means—

(a) a network revenue or pricing determination that sets a regulatory period; or

(b) any other determination (including a distribution determination or transmission determination) or decision *of the AER* under the Rules that is prescribed by the Regulations to be a reviewable regulatory decision,

but does not include a decision of the AER made under Division 6 of Part 3

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Part 7—The making of the National Electricity Rules

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Subdivision 2—Rule making tests

88—Application of national electricity objective

(1) The AEMC may *only make a Rule if it is satisfied that the Rule will or is likely to contribute to the achievement of the national electricity objective.*

(2) For the purposes of subsection (1), the AEMC may give such weight to any aspect of the national electricity objective as it considers appropriate in all the circumstances, having regard to any relevant MCE statement of policy principles.

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88B—AEMC must take into account revenue and pricing principles in certain cases

In addition to complying with sections 88 and 88A, the AEMC must take into account the revenue and pricing principles in making a Rule for or with respect to any matter or thing specified in items 15 to 24 and 25 to 26J of Schedule 1 to this Law.

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99—Draft Rule determinations

(1) The AEMC must make a draft Rule determination before making a final Rule determination in relation to the proposed Rule.

(1a) Subject to this Part, the AEMC must, within 10 weeks after the date specified in a notice under section 95, publish—

(a) the draft Rule determination; and

(b) notice of the making of the draft Rule determination.

(1b) In the case of a proposed Rule to which section 96A applies, the AEMC must publish the draft Rule determination and notice of the making of the draft Rule determination within 5 weeks after the date notice under section 95(1a) is published.

(2) A *draft Rule determination must contain*—

(a) the *reasons* of the AEMC as to whether or not it should make the proposed Rule, including—

(i) in the case where the proposed Rule is not a proposed more preferable Rule, *the reasons of the AEMC as to whether it is satisfied the proposed Rule will or is likely to contribute to the achievement of the national electricity objective*; and

(ii) in the case of a proposed more preferable Rule, the reasons of the AEMC as to whether it is satisfied the proposed more preferable Rule will or is likely to better contribute to the achievement of the national electricity objective than the market initiated Rule request to which the more preferable Rule relates; and

(iii) if the AEMC is required to take into account the form of regulation factors or the revenue and pricing principles, the reasons of the AEMC taking those factors or principles (as the case requires) into account; and

(iv) the reasons of the AEMC having regard to any relevant MCE statement of policy principles; and

(v) the reasons of the AEMC having regard to any other matters the AEMC considers relevant; and

(b) if the AEMC determines to make a Rule, a draft of the Rule to be made; and

(c) any other matters that are prescribed by the Regulations.

.....

121—Immunity from personal liability of AEMC officials

(1) No personal liability attaches to an AEMC official for an act or omission in good faith in the performance or exercise, or purported performance or exercise of a function or power under this Law, the Regulations or the Rules.

(2) A liability that would, but for subsection (1), lie against an AEMC official *lies instead against the AEMC.*

GENERATOR MARKET POWER - REVIEW OF AEMC DRAFT RULE DETERMINATION

A note from Pöyry Management Consulting to Major Energy Users Inc

July 12th 2012

INTRODUCTION

This note has been prepared for the Major Energy Users' Inc (MEU) in response to a request to review the Australian Energy Market Commission's (AEMC) Draft Rule Determination[1] in relation to the proposed rule change addressing Potential Generator Market Power in the National Electricity Market (NEM).[2]

The rule change request was intended to prevent the exercise of market power by generators in the NEM through the economic or physical withholding of capacity, especially during periods of high demand, thereby mitigating potential adverse impacts on consumers through the effects on wholesale spot and contract prices. The proposed rule change would require the Australian Energy Regulator (AER) to assess whether generators exhibited market power above specific regional demand thresholds and to impose restrictions on dispatch offers that may be submitted by such generators when the demand threshold is reached.

In its Draft Determination, the AEMC rejects the rule change on the basis that there is a 'lack of evidence supporting the existence of substantial generator market power in the NEM' and therefore 'any rule that seeks to constrain or limit the bidding of generators…is likely to diminish incentives for efficient investment'.

In this note we review the approach taken by the AEMC and its consultants (NERA Economic Consulting (NERA) and the Competition Economists Group (CEG)) in arriving at the conclusion that there is no 'significant and sustained problem with the efficient functioning of the market' (Draft Determination, p47).

In particular, we focus on:

- the definition of substantial market power in the context of electricity markets;
- the competitive benchmark used to assess evidence of exercise of market power; and
- the evidence presented on the existence of barriers to entry.

[1] 'Draft Rule Determination: Potential Market Power in the NEM'; AEMC, 7 June 2012

[2] 'Proposed rule change to enhance generator competition outcomes during high demand periods in the NEM', 23 November 2010

We have not been asked to review the specifics of the proposed rule change – only to comment on the analysis on which the AEMC has arrived at its decision.

Summary of findings

On the basis of the review we conclude that:

- the definition of substantial market power applied by AEMC contrasts with that applied in several other jurisdictions where competitive markets exist and effectively validates particular actions that other regulators have sought to monitor and address – notably exercise of transient or transitory market power;
- while a balance must be struck between short-run and long-run incentives, there is no robust evidence to suggest that the long run marginal cost (LRMC) metric proposed by the AEMC is the appropriate competitive benchmark or that the price-cost mark-up observed is a justifiable scarcity rent as opposed to an abuse of market power. We would expect to see:
  - evidence to support the conclusion that transitory pricing power does not have a material impact on wider economic performance; and
  - evidence that the observed fluctuations of the annual average wholesale price around the constructed LRMC benchmark can be fully explained by unexpected changes in either demand or supply conditions or entry/exit of generators. This evidence is currently inadequate despite being implied by the AEMC approach;
- the evidence presented by CEG in its report[3] to the AEMC is not sufficient to conclude that the markets do not exhibit entry barriers and therefore that what may be considered transitory pricing power would not be sustained in the long-run;
- the CEG evidence provided for the South Australia market (SA) indicates that there may be a situation of substantial market power in that region – the behavioural indices do not provide conclusive evidence that the market is operating competitively or that entry barriers do not exist;
- interaction between retail and generation markets that was indicated as an important factor for consideration in the Peer Review[4] of the technical paper has not been addressed despite there being concerns raised by CEG regarding the impact of vertical integration in the South Australian market; and
- there is no analysis of the actions of individual generators (e.g. bid levels or declared availability patterns) during observed price spikes, though this is something that we would expect any competition assessment to cover. Indeed, in its submission[5], the AER notes that while the exercise of market power by individual generators is harmful and has clear efficiency effects' the general approach applied by the AEMC risks by-passing these market power impacts.

AEMC APPROACH

The AEMC Draft Determination is based on three key assumptions about the nature of potential generator market power:

[3] 'Barriers to Entry in Electricity Generation: A report outline for the AEMC', CEG, June 2012

[4] CoRE research, July 24, 2011

[5] AER, November 11 2011

- that the relevant concept of market power is that of 'substantial market power' 'which involves the sustained pricing above the level that would prevail in a workably competitive market' – any exercise of transient market power (or transitory pricing power) is therefore acceptable in the generation market;
- that evidence of the exercise of market power would be provided by a pattern of out-turn market wholesale prices that were above an estimated LRMC for the market and would not require analysis of individual generator bids; and
- that transient market power (transitory pricing power) can be effectively ignored to the extent that there is no evidence of barriers to entry in the markets.

We consider each of these aspects in turn to provide a view on the robustness of the proposed methodology and the evidence supporting the conclusions arrived at.

Defining market power

Market power is a well-defined economic concept. Steven Stoft defines it as 'the ability to alter profitably prices away from competitive levels'.[6] In its application in competition analysis, this simple definition is often extended to include a time dimension – for example, the US Department of Justice defines market power as 'the ability profitably to maintain prices *above* competitive levels for a *significant period of time'* (*italics added*).[7] This period of time is generally in the order of one to two years, a period that is deemed sufficient for there to have been a reaction to the higher prices from existing competitors, new entrants or consumers, under competitive conditions.

Application of market power definitions in electricity markets

While, superficially, there may appear a strong case for applying a similar definition to electricity markets, this view is not widely held. Indeed, Professor Frank Wolak, Chair of the Market Surveillance Committee of the California Independent System Operator between 1998 and 2011, has previously commented that there is 'strong evidence that competition and anti-trust policy as it is applied to other industries may be insufficient to protect electricity consumers'.[8]

The main reasons for Professor Wolak and many other academic economists and policymakers reaching this conclusion are the defining characteristics of electricity markets:

lack of demand-side responsiveness;

lack of storability; and

the delivery through an integrated network system.

Some of these characteristics are also acknowledged by NERA in their technical report to the AEMC (June 2011)[9]. Crucially, because electricity cannot (easily) be stored, markets are distinguished by time to a much greater extent than other markets, and because of the

[6] S. Stoft, *Power System Economics*, 2002

[7] 1992 Horizontal Merger Guidelines (including 1997 revisions), US Department of Justice, 1997

[8] 'Managing Unilateral Market Power in Electricity Markets', F. Wolak, 2002

[9] 'Potential Generator Market Power in the NEM: A Report for the AEMC', NERA Economic Consulting, June 2011

reliance on networks for delivery, congestion can give rise to local market power even if a generator is not considered 'dominant' in the traditional competition definition.

As a consequence of these characteristics, two general statements can be made regarding market power in electricity markets.

Market power can be exercised for short time periods, but with similar impacts to a long-lived exercise of market power in other markets.

Many commentators note that market power can be abused in electricity markets over a relatively transitory period. However, in noting this, they also accept that this does not mean that the exercise of market power in this way is less damaging than a sustained price increase in other markets. Indeed, the UK Office of Fair Trading (OFT) notes that:

'the effect of abusive conduct on customers and on competition can be similar whether they are caused either by large price increases that are sustained only for a short period or small price increases over a long period.'[10]

Similarly, Twomey *et al* (2005), state that:

'A short-lived but dramatic price increase can injure consumers and competition as much as a longer-lived but more modest price increase'.[11]

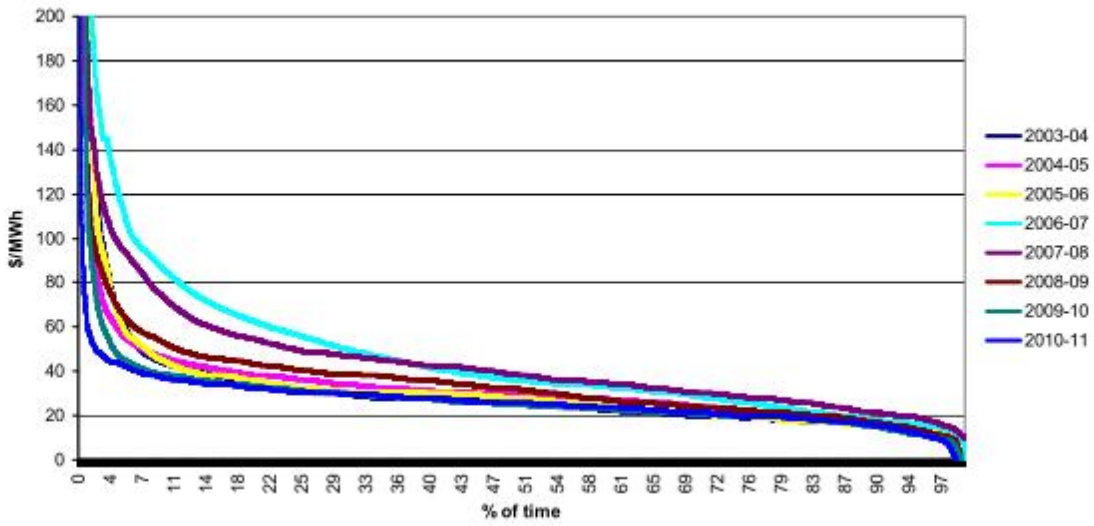
Indeed, in its analysis of price duration curves, NERA[12] has illustrated that periods of high prices may not necessarily translate into higher average prices. When reporting on the price duration curves in South Australia reproduced in Figure 1, they noted that 'while there had been a high number of periods of prices exceeding $5000/MWh, this has not translated into prices consistently exceeding estimates of LRMC'.

[10] 'Understanding Competition Law: Application in the Energy Sector', Office of Fair Trading, 2005

[11] 'A Review of the Monitoring of Market Power', Twomey, P., R, Green, K. Neuhoff and D. Newbery; Cambridge Working Papers in Economics CWPE 0504, 2005

[12] 'Benchmarking NEM Wholesale Prices Against Estimates of Long Run Marginal Cost: A Report for the AEMC', April 2012

Figure 1 – Price duration curves, South Australia, 2003/4 – 2010/11



Source: NERA, Fig 4.25

Traditional thresholds of unilateral market power and dominance do not apply

The standard indicators of market power, such as individual market share thresholds, and market concentration measures, like the Herfindahl-Hirschmann Index (HHI), do not provide a consistent view of the potential for market power. For example, in Great Britain, the OFT has noted that in the electricity sector, due to the particular economic characteristics to be found there (including relatively inelastic supply and demand conditions):

'there are circumstances where undertakings may have the ability substantially and consistently to influence prices, and therefore to act independently of customers and competitors, even though their market shares fall below normal thresholds for assessing dominance'[13]

What this implies is that defining whether a particular generator has market power requires a different set of structural indicators to those that are traditionally used in wider competition analysis. In recent times, a series of structural indicators have been developed to identify the potential for market power in real-time energy markets, capacity markets and ancillary services markets. These include:

- the pivotal supplier index (PSI) –a test that determines whether an individual generator is necessary (or 'pivotal') to meet demand. A variant on this, the three pivotal supplier test, is used in the PJM markets to identify situations of market power in the real-time energy market, the capacity market and the ancillary services (regulation) market; and
- the residual supply index (RSI) – a measure of the capacity of all other generation to meet demand when the capacity of an individual generator is removed. This was developed by the Californian Independent System Operator (CAISO) as a means of

[13] 'Understanding Competition Law: Application in the Energy Sector', Office of Fair Trading, 2005

monitoring potential market power in the day-ahead and real time markets as well as in relation to transmission constraints.

The justification for applying these alternative indices is because, unlike market share or HHI measures, they explicitly account for demand conditions, the dynamics of the market and the impact of forward contracting[14]. In its State of the Market Report for PJM,[15] Monitoring Analytics states that:

'The three pivotal supplier test is the most relevant measure of market structure because it accounts for both the ownership of assets and the relationship between ownership among multiple entities and the market demand and it does so using actual market conditions reflecting both temporal and geographic granularity'

In the peer review[16] of the NERA technical paper[17], it is noted that alternative measures of market power such as the RSI should be reviewed as part of the assessment. However, in the final paper, NERA state that:

'There are also a number of other indicators of substantial market power that are not discussed in this initial report. In particular the Lerner Index and the Pivotal Supplier Index…However, a detailed discussion of these methodologies is outside the scope of this initial report.' (footnote 10)

It was similarly not considered in the subsequent consultant reports, where the only structural indicator reported by CEG was the HHI. CEG did acknowledge this limitation, stating that HHI measures:

'…do not capture the fact that, given the inability to store electricity, in certain market conditions, prices are very sensitive to changes in supply such that even a small generator can have the incentive and ability to exercise (transitory) market power. Moreover, a large generator with low marginal costs may not have the incentive to act in this way. Ideally, what is needed is an assessment of the probability and frequency of such events. This is a major modelling undertaking that is outside the scope of this report.' (p.59)

However, despite this recognition, the CEG report justifies a conclusion that there is a lack of substantial market power in any of the NEM regions by applying standard definitions of dominance as illustrated below:

'Nonetheless, apart from Tasmania, in no state does one player hold more than 40% market share (at least when measured in terms of registered capacity) – this is a threshold used in European competition law as to whether there is a heightened risk of a firm having significant market power. This would suggest that unilateral SMP is less likely to be a problem outside of Tasmania unless there are other factors indicating SMP.' (p. 28)

[14] Under the definition of the RSI, contracted capacity of the generator is not considered part of its relevant capacity for netting off total capacity, largely because it is assumed that generators with contracted capacity have no incentive to exercise market power in spot markets. However, this does not mean that there may not be impacts of market power in forward prices.

[15] 'State of the Market Report for PJM 2012 Q1', Monitoring Analytics LLC, May 2012

[16] CoRE research, July 24, 2011

[17] 'Potential Generator Market Power in the NEM: A Report for the AEMC', NERA Economic Consulting, June 2011

Practical experience shows that regulators and policy makers across a range of jurisdictions have either sought or successfully implemented additional powers or restrictions to mitigate market power issues within electricity markets, over and above the powers conferred by competition law. In addition to the Independent System Operators in the United States, whose application of the RSI or PSI measures have been noted above, several further examples are outlined below.

GB market abuse licence conditions

In its guidance on the application of competition law to the energy sector in the UK, the OFT noted that:

'Ofgem [the energy market regulator] considers that there are factors unique to the energy sector or not common in most other markets which are relevant to the application of competition law. The relevant factors include:

the low elasticity of supply and demand for electricity and gas, particularly over short periods and in specific locations. In part this results from the limited storability of electricity…which limits the substitution opportunities between time periods on either the supply side or the demand side'[18]

As a consequence of these concerns, Ofgem has previously tried, unsuccessfully, to introduce licence conditions to limit the exercise of market power in the form of the Market Abuse Licence Condition (MALC) and is currently, along with the UK Department of Energy and Climate Change (DECC), proposing a new condition, the Transmission Constraint Licence Condition (TCLC), that looks to prohibit specific behaviours by generators during periods of transmission constraints when individual participants may have local market power.

Ofgem sought to introduce the MALC in 2000, just prior to the transition of the electricity system from a pool market with a capacity mechanism to a bilateral, energy only, market. MALC was focused on mitigating abuse of market power through actions such as capacity withholding or discriminatory pricing policies. Under MALC, a generator was considered to have 'substantial market power' if it had the ability to cause a 'substantial change in wholesale prices' as follows:

- an increase of 5% or more for a cumulative duration of more than 1440 half-hours in any one year;
- an increase of 15% or more for a cumulative duration of more than 480 half-hours in any one year; or
- an increase of 45% or more for a cumulative duration of more than 160 half-hours in any one year.

The MALC was accepted by five of the seven largest generators to whom Ofgem sought to apply it. Indeed, Ofgem enforced the condition on one generator, Edison Mission, in relation to a plant withdrawal and claimed the action had cost the system around £30m in terms of unnecessary price spikes[19]. However, the proposed licence change was appealed to the Competition Commission by the remaining generators, AES and British Energy.

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[18] 'Understanding Competition Law: Application in the Energy Sector', Office of Fair Trading, 2005

[19] 'The Work of Ofgem', House of Commons Select Committee on Trade and Industry, 16 January 2000, paragraph 170

The Competition Commission upheld the appeal and MALC was subsequently removed from all licences. In part, the Competition Commission's decision was linked to the specific circumstances of the appellants, including the highly contracted position of AES Drax. However, some more generic reasons were also a factor. These included:

- that decreasing concentration made market power less likely and that MALC might 'risk deterring normal competitive behaviour'; and
- that the underlying market design in GB was changing from a pool-based system to an energy only market (NETA), and the Competition Commission considered that 'the opportunities for and effects of the exercise of market power by generators are likely to be substantially less', despite caveating this by noting that 'the uncertainties over how NETA will work in practice are such that we cannot form a clear expectation as to the incidence of market power problems in the new circumstances'.

An ex-post evaluation by the Competition Commission concluded that it seemed 'well-justified' whilst also noting the following:

'Even today, it does not seem clear whether 'normal' competition law would suffice to deal in an effective and timely manner with problems of market power in the electricity wholesale market. Experience from overseas (notably the problems in the electricity market in California) illustrates the rapid and huge impact that market power or manipulation of market rules can have, particularly when the capacity/demand balance becomes tight. The response in the USA has been to introduce powers that are similar to those rejected by the CC, although there has as yet been little experience of the effects of this regulatory change.'[20]

This comment highlights the difficulty of relying on competition law to address market power concerns in the wholesale electricity sector and acknowledges the issues that Ofgem was seeking to deal with via MALC.

Around 10 years after the rejection of the MALC, the introduction of a specific licence condition to address market power concerns returned to the fore in Great Britain in the form of the TCLC.

The TCLC is intended to prevent generators from exploiting periods of transmission constraints to 'profit unfairly'. Of particular relevance, it seeks to limit the ability for generators to take self-dispatch decisions that would not normally be economic and which serve to exacerbate or create a constraint (i.e. the purpose is to block non-economic self-dispatch decisions). DECC has now announced[21] that the TCLC will be implemented and anticipates that it could save consumers between £115m and £300m over 5 years through reduced constraint costs. The TCLC will come into effect on 29 October 2012 and is due to expire after 5 years at which point transmission reinforcement work to alleviate physical constraints on the system that grant individual generators the identified local market power, are expected to have been completed.

The introduction of the TCLC in GB's energy only market serves to highlight both the potential for local market power linked to transmission constraints and the GB Government's view, in the prevailing circumstances, that there is a need for explicit tools to mitigate market power abuse in the particular context of electricity markets.

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[20] 'Evaluation of the Competition Commission's past cases', January 2008.

[21] 'Government Response to the Consultation on the Transmission Constraint Licence Condition', DECC, July 2012

European Commission Market Abuse Directive

Similar developments are occurring across Europe. In particular, the European Commission has introduced new regulatory measures that are intended to address the potential for market abuse in financial markets generally, which including trading in energy products, and in wholesale energy markets in particular.

In late 2011, the European Commission introduced the Regulation on Energy Market Integrity and Transparency (REMIT)[22] to mitigate concerns regarding the potential for market abuse within wholesale energy markets specifically. It applies stringent rules on wholesale energy trading activity to prevent use of insider information and other forms of market abuse which can distort wholesale energy prices. Furthermore, REMIT enables regulators to screen energy trading activity for potentially abusive behaviour and, if instances of abuse are identified, to apply penalties.

The Market Abuse Directive (MAD) has a broader focus, covering financial instruments and commodity trading more generally, but energy trading falls within its scope. It sets out rules and sanctions in relation to insider dealing and market manipulation.

The introduction of specific market abuse measures by the European Commission indicates that it considers that further tools are required to supplement Competition Law when tackling potential market manipulation, in energy markets in particular.

AEMC definition of market power

The AEMC bases its assessment on a specific definition of market power, substantial market power, which it defines as follows:

'Substantial market power in the context of the NEM is the ability of a generator to increase annual average wholesale prices to a level that exceeds long-run marginal cost (LRMC), and sustain prices at that level due to the presence of significant barriers to entry.' [Draft Determination, p.13]

This definition is in marked contrast to the approaches to defining market power in electricity markets applied in many other jurisdictions.

In particular, it effectively ignores many of the unilateral behaviours of generators (economic and physical withholding) that other markets have identified as having negative welfare effects on consumers. This is because, despite imposing additional costs through (unwarranted) short-term price spikes, the effect on annual average prices would be limited.

The justification for this is based on a distinction between 'perfect competition' and 'workable competition'. The latter, it is implied by the AEMC, means that there is scope for what it terms transitory pricing power. However, 'workable competition' is not an established economic concept. In describing workable competition, the U.S. Attorney General's National Committee on Antitrust Laws (1988)[23] stated that:

[22] Regulation No 1227/2011 on Wholesale Electricity Market Integrity and Transparency; European Commission, October 2011

[23] Referenced in 'Review of PJM's Market Power Mitigation Practices in Comparison to Other Organized Electricity Markets', The Brattle Group, September 2007

> 'The 'doctrine' of workable competition is only a rough and ready judgement by some economists, each for himself, that a particular industry is performing reasonably well…There are no objective criteria of workable competition..'

What is essentially being acknowledged is that there may be some justifiable uses of market power – i.e. that *exercise* of market power and *abuse* of market power are not synonymous in general market situations. In some circumstances, receiving prices above cost means that the generator is receiving a scarcity rent, and so observed 'occasional spot prices above cost are an inherent feature of an energy-only market such as the NEM and provide a mechanism for generators to recover their efficient fixed costs.' (Draft Determination, p.10)

While prices above the variable or short-run marginal cost (SRMC) of some generators will occur, and will need to arise if the generator is to recover its fixed costs, there is no necessity that this be delivered through an exercise of market power. Though it was not accepted by its Ministry, the New Zealand Commerce Commission noted in its 2009 review that 'this line of reasoning is flawed and is based on a misunderstanding of how competitive markets work.'[24]

The implied position of the AEMC and NERA[25] is that these short-term price spikes do not require monitoring for two reasons.

- They have limited impact on 'the achievement of the NEO or the productivity of the wider economy' – this finding is contrary to that of many other regulators, and appears to rely on the assumption that the level and volatility of spot prices is less important than the annual average level of wholesale prices.
- Provided there are no 'enduring barriers to entry and expansion' then entry/exit will occur to ensure the long-term prices trend around a new entry cost – however, even with a largely contestable market with no barriers to entry, transitory market power could lead to price increases that raise the risk and costs for consumers exposed to the spot prices without materially changing the long-term investment signal. As such, the 'transitory' market power can persist even if there is contestability.

While the AEMC has arrived at this conclusion following consultation, the approach adopted does not appear to have been fully justified. Specifically, it has been asserted that transitory pricing behaviour has no material impact on achievement of the NEO, though no evidence has been provided to support such a conclusion.

As there has been no analysis of the behaviour of individual plant or generators, the extent to which additional costs have been imposed on consumers either directly (where they are exposed to spot price fluctuations) or indirectly (to the extent that forward and contract prices (including hedging costs) are influenced by spot market price levels and volatility) has not been quantified.

It also does not present any evidence, for example, through net revenue tests, that the bidding behaviour of plant is in line with, as opposed to above, their required returns.

In effect, the definition applied by AEMC presents an opportunity for generators that have transitory pricing power to exercise that power to the maximum extent, provided it does

[24] Investigation Report: Commerce Act 1986 S27, S30 and S36 Electricity Investigation, NZ Commerce Commission, May 2009

[25] 'Benchmarking NEM Wholesale Prices Against Estimates of Long Run Marginal Cost: A Report for the AEMC', April 2012

not result in a sustained rise in average wholesale prices. This can be expected to reduce efficiency of dispatch, increase overall system costs and may also distort long-term investment decisions (both in terms of the level of capacity investment (artificially pushing prices up close to LRMC may perversely lead to incentives for overinvestment) and the type of capacity (peak or baseload)).

Assessing the metric for identifying exercise of market power

The exercise of market power generally consists of one of three actions:

- the withholding of capacity from the market (physical withholding);
- increasing the price at which the capacity is offered to the market (economic or financial withholding); and
- transmission related strategies that look to create or aggravate congestion to raise prices in a particular zone or node.

In assessing whether market power has been exercised, regulators and competition authorities normally consider a range of behavioural indices that apply to the actual conduct of generators in the market. This may involve the assessment of bid prices or declared availability for individual units or portfolios of generation.

Abstracting from data availability issues, the main difficulty is determining whether pricing behaviour is a consequence of genuine market fundamentals (i.e. high prices reflecting real scarcity) or are a result of the exercise of market power.

One observation that we have made on reviewing the documents supporting the decision is that there has been no analysis of actual behaviour of any individual generator or company. We consider this to be a fundamental omission in the analysis, especially considering that not only did the MEU identify specific generator behaviour in relation to economic withholding within South Australia, but that the AEMC's consultant, CEG, noted in its assessment of entry barriers in South Australia that:

'We conducted a relatively high level examination of whether capacity has been withheld in particular markets. This found strongest evidence that capacity was most frequently withheld in Tasmania and South Australia, although this warrants further investigation particularly as to whether other factors may have been responsible.' (p.6)

This lack of investigation of individual price spikes or generator behaviour is a direct consequence of the metric applied by the AEMC to determine whether there is substantial market power – the sustained situation of annual average wholesale prices above an estimated LRMC. Because the focus is on an average out-turn wholesale or contract price, the price spikes within the year are ignored.

Actually, in the analysis presented by NERA, the explanation of price spikes in any of the regional NEM markets is cursory and inconclusive – largely attributing the spikes to drought conditions affecting available capacity. However, there is no supporting evidence through which we can verify this conclusion.

The LRMC benchmark is taken as a proxy for an 'efficient level' of prices because in general, markets, especially where there are large, irreversible investments, tend to fluctuate around a LRMC level depending on whether there is excess supply (below LRMC) or demand (above LRMC). If there are no barriers to entry, then fluctuations in price should broadly reflect patterns of market entry or exit (and the implied capacity margin), allowing for short-run deviations to reflect transient demand or supply shocks.

While measuring market performance on this basis allows an assessment of whether new entry is responding to out-turn market signals (i.e. whether there is new entry when price is maintained above LRMC for a period of time) it does not provide a good indication of whether the average annual price actually reflects the underlying cost of the existing generation portfolio supplying that power. In other words, it does not tell you whether the actual prices are competitive given the market supply-demand position.

The fundamental point of contention is whether substantial market power is about raising costs above LRMC – or is it about raising prices above the competitive levels that would otherwise be observed?

A more accurate reflection of the relative performance of the market would come from undertaking a full competitive simulation of the market on a half hourly basis, to provide a benchmark for the expected efficient pattern of prices. This would have the added benefit of illustrating the extent to which any transitory pricing power may be inflating costs to consumers. The ability to raise prices above what they would otherwise have been is critical – it may not be that there is a need for entry, but prices can still be too high.

In our opinion, while we acknowledge that long-run investment decisions are based upon future expectations of prices:

- an annual estimate of LRMC does not reflect the long-term price expectations that a future generator will take into account when investing, especially when that investment is long-lived and will take several years to be realised;
- the types of behaviour (i.e. economic and physical withholding of capacity) that are being cited as the reason for the rule change are not consistent with the competitive derivation of scarcity rents; and
- there is no corroborating evidence that price fluctuations around the LRMC that have been observed are explained by changes in market fundamentals.

Whether a long-term benchmark may be applicable, the current analysis does not adequately fulfil the necessary criteria. What we would expect to see is some causal relationship over time between the level of prices and the supply-demand balance. In particular, we would expect to see some clear illustration of the market drivers affecting the pattern of annual average prices – especially whether there had been induced investment or entry.

We note that there are challenges associated with defining robust relationships between LRMC projections and wholesale market prices. In 2009/10, we conducted analysis of nine liberalised markets (spanning a mixture of energy-only markets and energy plus capacity markets) to test the economic theory that in the longer term market prices should tend towards LRMC of a new entrant. Our analysis did not produce a firm conclusion. It indicated that while some markets have allowed LRMC recovery, others have not. Capacity margin was often not a key driver in the relationship between prices and LRMC, with, in many cases, little correlation between cost recovery and capacity margins. Other factors appeared to be equally or more important in determining cost recovery. For example:

- market design is critical, especially capacity payments which increase the probability that prices are close to (or above) LRMC;
- income from outside the wholesale market;
- market structure and generator market power can enable operators to increase prices; and

- temporary drivers, such as nuclear outages, water shortages or increases in demand can drive prices significantly above (or below) LRMC

Our experience highlights the difficulty of testing the theory that prices should tend to LRMC and the range of drivers that can influence this relationship. In particular, it implies that failure to explicitly rule out through a review of behaviour the exercise of market power by individual generators as a driver of price variations around LRMC reduces the robustness of any conclusion that variations are solely due to temporary factors such as unexpected demand or supply shocks.

Contract price benchmark

The comparison of average contract costs is predicated on a specific form of contractual model and necessitates an associated level of market liquidity.

To the extent that the majority of retail contracts are managed and structured according to a four to five year hedging strategy, then the stylised contract costs may be reflective of market out-turns. However, we note the following:

- it is very unlikely that a large proportion of non-domestic retail customers are contracted in such a way (We expect that large, energy intensive consumers, in particular, will have contracts with prices based upon spot prices, rather than longer-term average prices) and to the extent that retail markets shares will have high proportions of non-domestic consumers in them, then this benchmark will be unrepresentative of the prices for those groups. In South Australia, we note that only around 30% of the retail market by volume is residential, therefore the contract model is of limited relevance;
- that the forward market in any of the regional markets would have sufficient liquidity over the required time period to provide credible reference prices for such contracts.

In addition, we note that there appears to be a very large divergence over time between the pattern of modelled contract and wholesale prices. While we recognise the limitations of the modelling approach, we would anticipate that a regulator relying on this information may see this as a cause for concern as it suggests that retail market entry is not being observed when conditions would indicate that there is scope to undercut incumbent suppliers.

Alternatively, it may suggest that there are additional issues of vertical integration that should be considered in addition to the horizontal market power concerns in the wholesale market. The importance of this vertical linkage was noted in the initial Peer Review and again by CEG, which reported concerns that vertical integration in South Australia was potentially acting as a barrier to the entry of independent generation.

However, despite the fact that this data on barriers suggests that the South Australian market may not be working efficiently, the AEMC proposes relying on the LRMC pricing metric as the means of monitoring the validity and impact of these barriers, rather than taking them as a signal that the pricing benchmark may not be robust as a single, ‘bright line’ test of the existence and exercise of market power.

Methodology for calculating LRMC

Regardless of the appropriateness of LRMC as a metric for use on market power assessment, the methodology used to determine it presents potential issues. NERA itself acknowledges some limitations in the approach, including that:

- it does not explicitly include the influence of renewable energy targets on the profile of investment;
- it does not allow for increased transfers from other regions; and
- for Queensland, relatively high new entrant gas price assumptions have inflated the LRMC in several years.

Other issues are also noted:

- for most States, the perturbation derived LRMC is mid-to-high within the range of average incremental cost derived LRMCs. The clear exception is the case of South Australia, where the perturbation derived LRMC is in the lower end of the range, either matching or below the quoted price metrics. If the perturbation method is considered to be more accurate (as suggested by NERA), this brings into question the conclusions in relation to South Australia. It also brings into question whether having a perturbation derived LRMC within the average incremental cost derived LRMC cost range is sufficient evidence to assume that the range is appropriate;
- the comparison between LRMC and historic prices is not the most informative assessment, as from a new entrant's perspective it is whether anticipated future prices are expected to cover new entry costs that is important;
- there is an open question as to whether OCGT or CCGT will always be the default new entrant technology options given the availability of coal in some States, with consequential implications for new entry cost assumptions;
- our understanding is that the LRMC methodologies include carbon price assumptions for historic years that are not reflected in the corresponding historical prices. This introduces a discrepancy between the data which clouds the interpretation arising from comparison between the two metrics.

Barriers to entry

The applicability of the pricing benchmark and the acceptability of the observed pricing behaviour relative to that benchmark is dependent on the assumption that there are no 'significant barriers to entry and expansion'. The Draft Rule Determination is based on the AEMC's assessment of a report by CEG that there is 'a lack of firm evidence supporting the existence of significant barriers to entry' [Draft Determination, p44]

We have reviewed the report and identified several statements that indicate the conclusion is less than robust (see Table 1). In particular:

- though initially CEG comment that past pricing evidence is to be assessed alongside other evidence, they rely to a great extent on the pricing analysis for their conclusions – this circularity in the arguments is unconvincing from both CEG and AEMC;
- they present evidence to suggest capacity withholding, though this is not investigated further by AEMC, presumably on the basis that the evidence did not correspond with the observed pricing benchmarks;
- CEG provides the only analysis of capacity utilisation which shows markedly different trends in the pattern of capacity utilisation across South Australia than in the other markets. Indeed, there appears to be a significant reduction in capacity utilisation during peak price periods, in contrast to the behaviour in other regions where CEG notes that the underlying existing market structure imposes more competitive pressure. Though we are unable to make any conclusions relating to causality, the

observed pattern of prices in a market where a single generator is likely to have a pivotal position, merits further investigation.

While noting that AEMC accepts that CEG's evidence on barriers is 'less clear' in South Australia, we would argue that, in combination with the concerns regarding the definition of, and framework for monitoring, substantial market power, further detailed analysis of the historic performance in South Australia be undertaken.

Table 1 – Evidence or statements in support of or against the existence of market power

Market power exists	Comments	Market power does not exist	Comments
P 6 – 'Thus, there is some uncertainty over whether prices in the future will remain close to LRMC particularly if years of temperatures above the long-term historical average and limited rainfall become more common. It may also be the case that positive net retail/contract cover in recent years has given any generators with SMP an incentive to lower prices than raise them. Accordingly, we believe that, rather than being definitive on its own, evidence of past pricing should be considered alongside other key evidence.'	Raises questions about the LRMC and spot price comparison work done by NERA.	P 6 – 'We have found that overall concentration levels are below the ACCC's threshold for competition concerns except in Tasmania and, to a less concerning extent, in New South Wales and South Australia'	Suggests that generation markets are not concentrated.

P 6 – 'We conducted a relatively high level examination of whether capacity has been withheld in particular markets. This found strongest evidence that capacity was most frequently withheld in Tasmania and South Australia, although this warrants further investigation particularly as to whether other factors may have been responsible.'	Suggests that there is evidence of capacity withholding. This issue needs further review.	P 28 – 'Nonetheless, apart from Tasmania, in no state does one player hold more than 40% market share (at least when measured in terms of registered capacity) – this is a threshold used in European competition law as to whether there is a heightened risk of a firm having significant market power. This would suggest that unilateral SMP is less likely to be a problem outside of Tasmania unless there are other factors indicating SMP.'	Market share analysis does not indicate dominance (based on 40% threshold). What is the ownership status of the price setting plant, though?
P 6 – 'We also found evidence that vertical integration could be increasing costs for independent new entrants in South Australia. In particular, vertical integration appears to be reducing liquidity in contract/futures markets and it is reasonable to assume that, in this context, high volatility in South Australian prices (including frequent negative price spikes) may be creating a barrier to entry by independent non-vertically integrated generators.'	Suggests that VI may be creating a barrier to new entry, which points to competition issues that are in need of further investigation.	P34 – 'HHIs have been falling in New South Wales and South Australia and are not substantially above the ACCC's threshold.'	Concentration not a major issue for most States.

P 7 – 'We found evidence consistent with capacity being withheld to drive up prices and that vertical integration may be creating a barrier to entry by independent non-vertically integrated generators. On the other hand, pricing evidence from the NERA/Oakley Greenwood report suggests that competition among incumbents is effective and/or barriers to entry are not significant.'	CEG seem to suggest capacity withholding concerns and VI issues within SA, but then dismiss these concerns, pointing to evidence from the NERA study. The robustness of this is questionable.
P 7 – 'In South Australia, we recommend that the relationship between prices and LRMC in South Australia be subject to ongoing review to identify whether the historical evidence was atypical.' p63 – 'periods where generators have the incentive and ability to exercise (transient) market power are more common in South Australia and Tasmania…'	This suggests that, in SA at least, there is evidence of some concerns regarding the relationship between LRMC and prices which require ongoing attention.

Summary

In summary, we find that:

- The characteristics of the power market mean the definition of substantial market power applied by AEMC does not capture a range of actions/behaviour that can have a material detriment on consumers. No evidence has been presented to indicate that this risk does not exist in the NEM.

- The focus on LRMC assumes that the market is contestable – but the evidence does not adequately support this conclusion, especially for SA and Tasmania. In South Australia, the CEG report indicates that there may be ongoing market power concerns. Whether these are structural, they imply that transitory pricing power may be more persistent than the AEMC methodology assumes.
- There is insufficient evidence to support the conclusions that substantial market power does not exist. Specifically, (a) there is no evidence to determine that annual average prices are at an efficient level given underlying market conditions; and (b) that there are no significant barriers to entry and expansion.
- CEG does not appear to have considered sector-specific advice that has been applied in other energy markets that accounts for the potential transient pricing power that exists in the power sector. We would expect that they would have reviewed the standard short-term structural indicators such as the pivotal and residual supply indices that have replaced the HHI in several aspects of market monitoring activity.

In its Draft Determination, the AEMC states that it 'considers that the assessment framework and approach adopt[ed] for this rule change request provide a framework within which market participants and other stakeholders can assess whether at any time in the future issues of substantial market power in the NEM arise'.

From our review, we cannot conclude that the framework is fit for purpose and that it meets an appropriate threshold for application.

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