

17 November 2011

Mr Richard Owens
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

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Dear Mr Owens,

AEMC Directions Paper, ERC 0123

The Energy Users Association of Australia (EUAA) welcomes the opportunity to make a submission to the AEMC on its Directions Paper in the attached document.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Roman Domanski", with a stylized flourish at the end.

Roman Domanski
Executive Director



Submission to the Australian Energy Market Commission on the Directions Paper on the Potential Generator Market Power Rule Change Proposal

Acknowledgement & Disclaimer

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The views expressed in this document are those of the EUAA and do not necessarily reflect the views of the Consumer Advocacy Panel or the Australian Energy Market Commission.

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1 Introduction

This document is the Energy Users Association of Australia's (EUAA) submission to the AEMC ("the Commission") on the Commission's Directions Paper on the "Potential Generator Market Power in the NEM" Rule 2011. The EUAA is grateful for the opportunity to make this submission, and looks forward to constructive discussion with the Commission in the course of the Commission's assessment of this rule change proposal.

The EUAA's membership includes a significant portion of Australia's major energy users. The EUAA's membership is interested, like other energy users, in ensuring that the National Electricity Market (NEM) is as competitive as possible. This is a particular concern to the largest energy users for whom electricity generation costs are the largest portion of their bills.

The submission is set out as follows. Section Two sets out our main comments on the Commission's Directions Paper. It deals firstly with the Commission's process (which we support) and then the Commission's proposal to calculate Long Run Marginal Costs (LRMC) to test for the existence of market power (which we do not support). Section Three is our proposal for an approach to the assessment of market power that the Commission might consider. It builds on the methodology applied by Darryl Biggar in his submission to the Commission.

2 Comment

2.1 The Commission's process

The Directions Paper sets out the process that the Commission intends to follow in assessing the MEU's proposal. The main elements of the process that the Commission has said it will follow is firstly to assess whether there is a problem that demands changes to the Rules, and if so, the Commission will then consider what Rule changes are needed. If the Commission finds no market power problem, then it will not change the Rules.

We agree with the process that the Commission is proposing to follow, although we are concerned about a part of Step 2 of the assessment framework decision tree. Specifically we are concerned with the element that tests whether market power conduct is within the scope of *Consumer and Competition Act (CCA)*. This step states that if the Commission finds that the exercise of market power is within the scope of the CCA, the Commission will not make a Rule. We suggest that this should be handled with care, having regard to the limitations of the CCA in pro-actively restricting the exercise of

market power in the electricity industry. To the extent that an advantageous rule change might be formulated, we would like to encourage the Commission to determine such a Rule change.

2.2 Comment on the use of LRMC as the test for the exercise of market power

The Directions Paper defines substantial market power as “... *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*”.

The implication of this is that the Commission has specified the test for the existence of market power is whether or not prices in the NEM (in spot and contract markets) exceed what the Commission has calculated to be the “market” LRMC.

We do not think that this is an appropriate test for the exercise of market power. An inappropriate test will mean that potentially valid market power concerns will be dismissed in the Commission’s rule change review.

There are three aspects to our concerns with the Commission’s approach. These are summarised as follows:

1. The Commission’s approach grants generators a free reign to exercise market power whenever annual average prices are below LRMC.
2. The use of LRMC in the assessment of market power in contestable markets is questionable in theory and practice.
3. Generators have an incentive to game the Commission’s approach to their benefit.

The rest of this section explains these points in further detail.

2.2.1 Should generators be allowed to exercise market power when annual average prices are below LRMC?

It appears, from the approach proposed by the Commission, that generators would not be exercising market power if the annual average prices fall below the Commission’s calculation of LRMC. In other words, it would appear that the Commission’s view is that prices above short run production costs is (generally) not problematic even if such prices came about as a result of generators exercising power to *make* prices (rather than *take* prices) by withholding capacity or, indeed, colluding to raise prices. Based on the Commission’s approach, the only point at which the Commission would become concerned would be when such higher prices become so high that it results in average

prices rising above the level of what the Commission calculated to be the LRMC for the market.

We are concerned that this approach is contrary to the spirit of competitive markets and would asymmetrically deny customers the benefit of periods of low prices during episodes of excess supply.

In markets for a wide variety of goods and services such as, say, the market for cars or air travel or coal or consultants, prices are established through the interaction of supply and demand. If supply far exceeds demand, prices would be expected to fall and consequently the supply side could be expected to contract as unprofitable producers can no longer sustain their operations. In this way, excessive supply would be reduced and prices could be expected to rise. Conversely if demand exceeded supply, high prices might be expected and sellers could be expected to achieve a surplus in excess of their costs thus sustaining high profits. These profits would encourage supply-side expansion which would, over time bring prices down again. This market dynamic is of course widely understood in market economies. The key point is that markets - as they are generally understood - do not guarantee sellers that they will always recover their investments. Whether they do or not will depend on the relative competitiveness of the seller and also on broader cycles of the balance between aggregate demand and aggregate supply.

The National Electricity Market (NEM) is meant to be an openly contested market much like any other (albeit mandatory, centrally co-ordinated and subject to technical constraints related to the transmission of electricity). The philosophy underlying the creation of the NEM is that freely interacting buyers and sellers, not a monopolist, should determine prices, production and investment.

As in other markets for other goods and services, it would be quite legitimate for energy users (and generators) to expect that some (or even all) generators might, even for prolonged periods, not recover their fixed costs.

We suggest that the National Electricity Law and National Electricity Rules are quite clear that the NEM is meant to deliver prices that in each five minute trading interval is based on the lowest generator offers that meet market demand. Neither the Law nor the Rules provides a basis for the Commission's view that producers have a right to raise prices by withholding capacity when annual average prices are below a benchmark level.

The AEMC's approach implies that generators should be allowed to exercise market power as long as annual average prices are below the Commission's calculation of LRMC. This is to suggest that generators (acting alone or in collusion) should be allowed to abuse a dominant position, as long as annual average prices are below

LRMC. By extension the Commission's approach implies that large generators should be allowed to merge where doing so would substantially lessen competition provided they submitted an undertaking that annual average wholesale prices would not exceed LRMC. These all seem quite obviously inappropriate: the enforcement of competition rules should not depend on price outcomes – yet, this could be the logical conclusion to be what the Commission is proposing.

For the avoidance of doubt, we do not suggest that generators in the NEM *should not* recover their fixed costs: if demand exceeds available supply, higher prices would be expected and indeed would be desirable to attract additional supply. Spot prices that rise above variable production costs to reflect scarcity are, we suggest, not problematic as long as they reflect genuine scarcity rather than scarcity that is contrived through withholding of capacity.

2.2.2 The use of Long Run Marginal Cost in the assessment of market power in contestable markets is questionable in theory and practice

The Direction's paper refers to NERA's advice that market power should be assessed against the "market" LRMC. NERA refer to a 1969 paper by Ralph Turvey for their definition of LRMC.

The neoclassical analysis of competitive markets in equilibrium holds that in the presence of constant or declining economies of scale, setting prices at short run marginal costs will maximise welfare (the producers' and consumers' surplus) and provide sufficient revenue for producers to recover their average costs. However when unit costs decline with scale, as is typically the case with network utilities, prices at short run marginal costs will still maximise conventional measures of economic welfare but will usually not recover average costs.¹

Bonbright (1961)² notes that up to the 1930s utility industry tariffs were dominated by the consideration of average costs: marginal costs played little role in the formulation of utility tariffs on the basis that to price on the basis of short run marginal costs would not recover average costs.

¹ But forms of price discrimination such as two-part pricing may allow pricing at marginal cost at the margin when fixed charges are large enough to cover the remaining fixed costs.

² Bonbright J.C., 1961. "*Principles of public utility rates*", Columbia University Press.

Professor Harold Hotelling in 1938 presented a forceful argument that the price of monopoly utility services should also be based on short run marginal costs.³ Hotelling's argument was that in monopoly utilities as in competitive markets, optimum resource allocation occurs when prices are set at marginal costs. Hotelling envisaged that any shortfall between average costs and prices based on marginal costs should be recovered through taxes. Bonbright (1960) notes that while Hotelling's approach received critical support amongst theoreticians, only a few of the persons engaged in the actual practice of rate making or rate regulation are familiar with, or interested in, the philosophy of marginal-cost pricing.

One of those persons interested in marginal cost pricing was Marcel Boiteux, an engineer working for Electricite de France. Boiteux developed an elaborate application of long run marginal costs in the formulation of electricity tariffs to be charged by the newly created national power monopoly, Electricite de France.⁴ His approach became widely accepted by monopoly electricity companies around the world in the following decades. Ralph Turvey's 1969 paper referred to in NERA's report is one such defence of the application of long run marginal costs, based on the approaches first implemented by Boiteux.

Unlike the mathematical proof that underpins Hotelling's advocacy of short run marginal costs in utility pricing, the justification for LRMC is based on various arguments that it better meets a variety of often mutually exclusive pricing objectives (such as optimal resource allocation versus financial self-sufficiency)⁵ than other approaches such as prices based on short run marginal costs or average costs. This is not the place to defend LRMC against competing approaches. The main point is to note that following Boiteux's lead in France, it became a widely applied approach in monopoly electricity utilities in setting electricity tariffs, in generation and transmission expansion planning and also to some degree in generation scheduling and dispatch.

The deregulation of electricity supply, and the creation of open markets for the determination of production, prices and investment has made arguments on the advantages and disadvantages of LRMC largely irrelevant. In markets, prices are determined by sellers competing to meet market demand. Conjecture of what the long run marginal costs may or may not be has no impact on the outcomes for producers and consumers. As a consequence, following the creation of the NEM in Australia, little has been heard of LRMC

³ Hotelling H., 1938. "The general welfare in relation to problems of taxation and of railway and utility rates". *Econometrica* 242-269

⁴ Boiteux, M. 1956. "La Vente Au Coût Marginal", *Revue Française de l'énergie*.

⁵ Bonbright (1961) sets out these opinions from page 400.

The Commission's proposal to resurrect LRMC and use it to test outcomes in the electricity market is therefore the resurrection of an approach that was relevant while electricity generation was monopolised. The adoption of this approach supposes that the Commission can determine the efficient price and generation investment schedule. The Commission will then use this calculation of the efficient benchmark to assess the actual outcomes in the electricity market.

This of course begs the question that if the Commission can know what the efficient investment and price is, what purpose does the market serve? If the Commission knows the right price would we not all be better off leaving investment planning and pricing to the Commission rather than to the market? The fact that the electricity market exists and that it enjoys a generally high level of support from both producers and consumers - suggests that there is not likely to be much support for this proposition.

This is not to denigrate the expertise of the Commission, but rather it is a comment on the lack of confidence that market participants have in the ability of authorities to better the outcomes delivered by markets. We would not expect that if the ACCC was undertaking an investigation into competition in coal mining, say, that it would calculate the LRMC of coal mining and then use this to assess whether or not the coal market was competitive. If we do not expect such an approach in the assessment of the competitiveness of the coal sector (or other product or service market for that matter) why should we expect it in electricity markets? Indeed, if the Commission defines the outcomes delivered by a monopolist as the test of the effectiveness of the market, this might suggest that the Commission has doubts about its confidence in the market.

Finally, with respect to the calculation of the LRMC, NERA's advice based on Ralph Turvey's lead, is to calculate a "market" LRMC - i.e. the incremental cost across the market to meet an incremental MW of demand. This requires that the AEMC to fill the shoes of a central planner specifying the full range of investments that optimally meets incremental demand in the long term. This is a highly problematic role for the AEMC to be considering.

For these reasons we suggest that the Commission's proposed approach is questionable in theory and practice. In addition, as far as we are aware there is no evidence that any other competition authority has applied this approach in their assessment of the competitiveness of energy markets, or indeed of any other market. This makes it all the more important that the Commission, if it pursues its proposed approach, should provide a convincing rationale for it.

2.2.3 Generators have an incentive to game the Commission's approach to their benefit

The calculation of a "market" LRMC will require the Commission to make assumptions on a wide variety of inputs including fuel costs, maintenance costs, generator availability, the technical specification of existing generating technologies and the possible future evolution of generation technology, capital costs, financing costs, future demand and price elasticity of demand and future government energy and emission reduction policies. None of these are knowable with certainty - which is at least part of the reason that a market has been created to allow investment risk to be taken by those best able to manage the uncertainties.

Of course such uncertainties will not preclude the Commission from constructing an analysis of the market LRMC. But, they will make the task of constructing and maintaining (over time) a credible and robust analysis of LRMC difficult, costly and open to serious challenge or dispute.

We suggest, a credible analysis will need to use data on fuel costs, maintenance costs and so on that is reliable and representative. Such data is proprietary and of great value to generators. These generators would have no interest in providing representative but commercially-confidential data to the Commission so that the Commission can construct an analysis that will potentially be held against those same generators that provided the data to the Commission. To the contrary, the generators would have every incentive to encourage the Commission to construct an analysis that shows as high an LRMC as possible as this will reduce the prospect that the Commission will conclude that there is a market power problem to be solved. If a generator is exercising market power, this is obviously the outcome they can be expected to seek.

We suggest that the Commission will be at a considerable disadvantage relative to the generators in undertaking the LRMC analysis. The asymmetry in available data and analytical expertise in favour of the generators will give the generators a hold over the Commission and hence the ability to game the construction and application of the LRMC test. We submit that this may well explain the enthusiastic support that generators have shown for the LRMC approach, in their submissions to the Commission.

3 A suggested approach to the assessment of market power

In the spirit of constructive engagement with the AEMC, we have attempted to develop a suggestion for the Commission's consideration on how it might test for the existence of market power, in place of its proposed LRMC test.

One way to draw attention to the possible exercise of market power is to examine the prices that various generators have achieved in the spot market. If generators competing in similar parts of the market (for example for the provision of baseload energy) are achieving significantly different average prices in the market, this might be one pointer to the exercise of market power. Our analysis is presented in Appendix A. This draws attention to possible exercise of market power by Torrens Island Power Station in South Australia. However in all other parts of the NEM, generators competing in similar markets appear to be achieving similar prices in the spot market, and so *prima facie* this is not suggestive of the exercise of market power. Of course this is little more than a very elementary analysis: it takes no account of contract market outcomes. And a simple exposition of prices achieved does, of course, not provide demonstrable evidence of the existence of market power. A far more detailed analysis of specific events is needed to assess the existence of market power.

One such analysis is presented by Darryl Biggar in his submission to the Commission. This is a high quality and precise analysis and we suggest that it could be used as a template by the Commission for the analysis of market outcomes.

One way to implement this analysis would be to apply it to a sample of the 60 events when spot prices in the NEM exceed \$5,000/MWh since late 2005. The AER's Markets Branch has produced detailed analyses of these events since October 2005. Perhaps the AEMC might start with an initial pilot study of the 10 most significant instances of prices exceeding \$5,000/MWh (significance being established as the product of the actual markets prices when above \$5,000/MWh and the market demand at the times of those high prices).

The analysis, following Darryl Biggar's approach, would test whether such prices resulted from genuine scarcity or whether it resulted from the withholding of capacity from the market by one or more generators in order to raise prices.

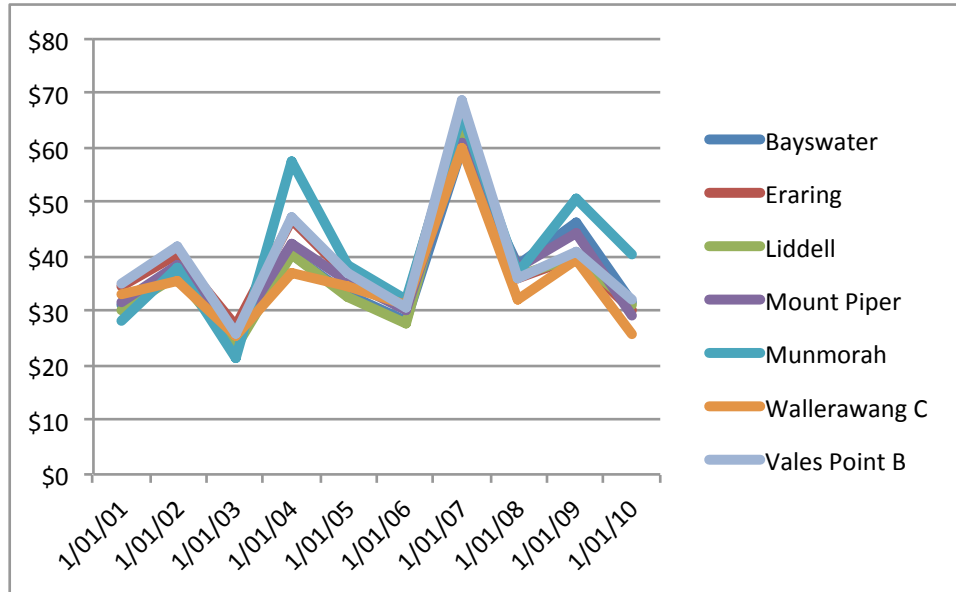
This initial pilot study may provide evidence of the systematic exercise of market power by one or more generators. Or it may suggest that, in fact, these high price events generally reflected genuine scarcity and a reasonable price response by generators to such scarcity. Perhaps it will reflect both outcomes at various times.

Having completed the pilot study, the Commission could then extend its analysis to the next 20 most significant events to assess whether this confirms the observations and conclusions of the pilot study. This total dataset – 30 events – should be sufficient to provide well-informed conclusions on the existence and detriment (or not) of market power (as defined by Darryl Biggar). The evidence established through this approach should therefore satisfy the tests established in the Commission’s process for this review and hence provide the Commission with the confidence to proceed to the next step of its process.

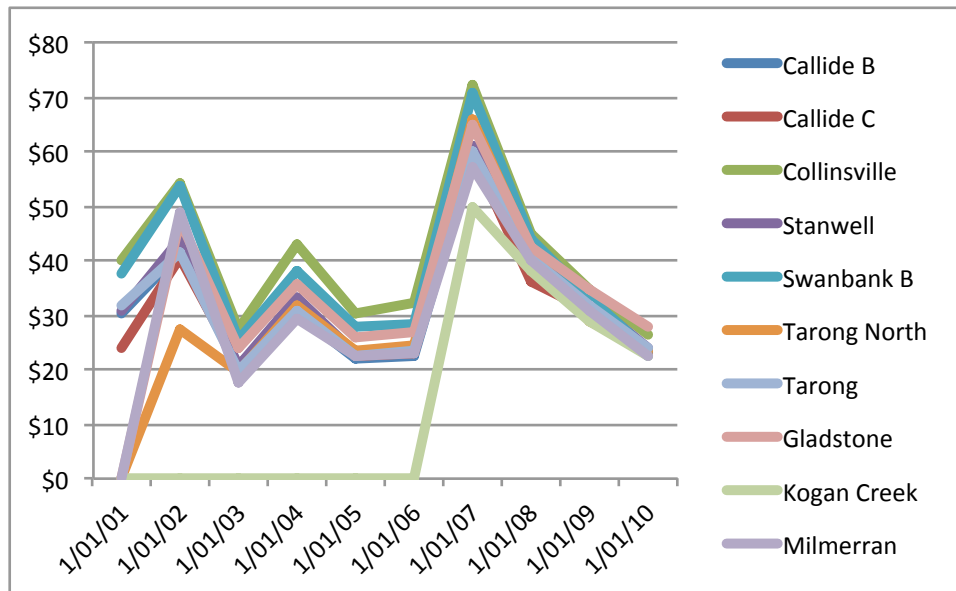
In terms of resourcing this study, we suggest that it might be undertaken by a working group consisting of AEMC, AER and ACCC staff and advised by Darryl Biggar. To encourage stakeholder involvement, this could be supplemented by a stakeholders’ advisory group including representatives from energy users, retailers and generators to lend their knowledge and perspectives to the process. We suggest this approach as one that will help to deliver confidence to market participants and energy users in the Commission’s assessment of market power in the NEM.

Appendix A: Average spot price received in NEM regions

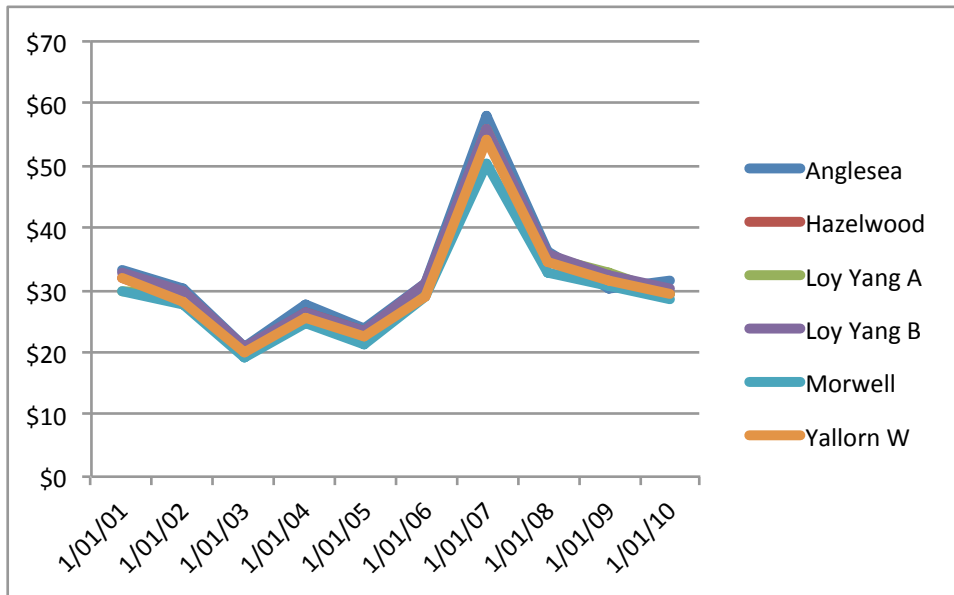
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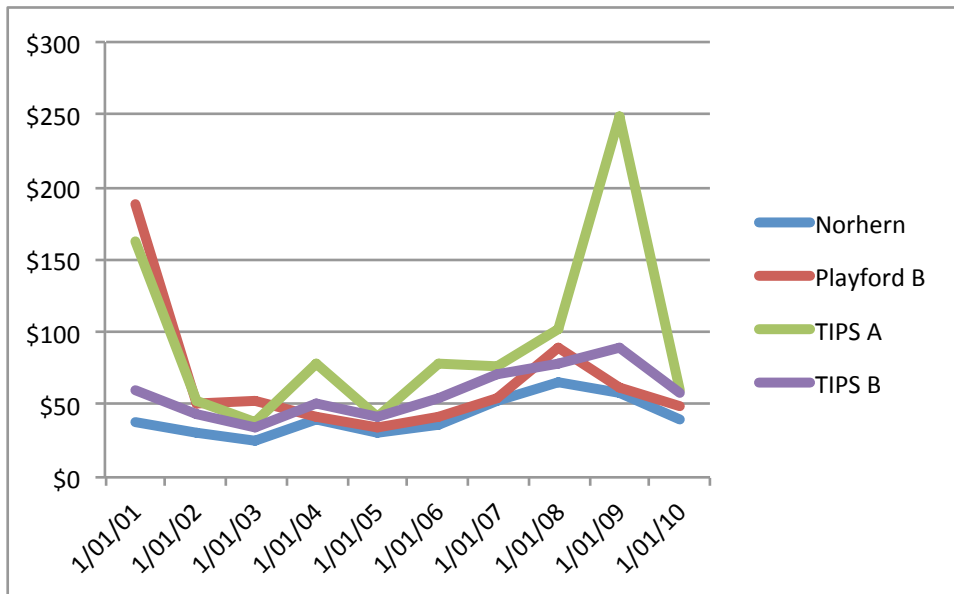
Queensland



Victoria



South Australia



Tasmania

