



Major Energy Users Inc.

**Generator Market Power rule change
proposed by MEU**

Comments on the

AEMC Technical Paper provided by NERA:

**“Estimating Long Run Marginal Cost in the
National Electricity Market”**

Submission by

The Major Energy Users Inc

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1. INTRODUCTION

The Major Energy Users Inc (MEU) welcomes the opportunity of commenting on the AEMC Technical Paper prepared by NERA “Estimating Long Run Marginal Cost in the National Electricity Market”. The NERA paper has been released for public consultation following the release by the AEMC of its Directions Paper relating to the rule change proposed by the MEU to limit the exercise of market power by generators in the NEM.

The MEU is particularly concerned that the release for consultation and consideration of the NERA paper does not quarantine the consideration by the AEMC of issues and concerns raised by stakeholders with regard to the AEMC’s Direction’s Paper and this Technical Paper. In the MEU’s view, those issues and concerns are so important and relevant that they require detailed examination and consideration in addition to the more limited issues raised in the present NERA paper. The AEMC’s ‘evidence-based’ review must encompass a comprehensive assessment of issues/concerns raised by stakeholders.

Prior to its examination of the MEU rule change proposal, the AEMC proposes to assess if there is evidence of the exercise of market power, and if the evidence supports the exercise of substantial market power. To this the end the AEMC has proposed the use of an assessment equation which compares price outcomes with cost inputs. Whilst the AEMC has advised that it does not propose to use this equation as a “bright line test”, it will use the outcome to guide its decision as to whether there is a need for greater investigation of the proposed rule change.

There is a fundamental flaw in the AEMC/NERA proposition and assessment of whether there has been the exercise of market power (whether substantial or not). In attempting to identify if there has been the exercise of market power, it focuses on market wide outcomes (prices) and solutions (marginal generation costs) rather than on the issue under submission. The AEMC/NERA approach includes in the price element (the numerator of its assessment equation), the high prices that result from the scarcity of capacity. In the cost element (the denominator) of its assessment equation it bases this element on the cost of supply to provide for an **expected** scarcity in supply because the use of the long run **marginal** cost is the cost for the amount of generation needed to serve the **next** increase in demand.

It is important that it be recognised that the exercise of market power is entirely related to the economic withdrawal from the market of generation capacity and the MEU rule change proposal focuses totally on this aspect. The price effects of the scarcity of supply are not captured by the MEU

proposal and therefore where there is a scarcity of supply the effects from this should also be excluded from the assessment of the **cost** of supply.

It is therefore important that both the price of supply and the cost of supply elements of the assessment equation focus only on when there is an exercise of market power which is demonstrated by the economic withdrawal of capacity. To include in its assessment equation the effects of scarcity of capacity will distort the assessment that the AEMC is attempting to undertake.

This point is also made by Darryl Biggar in the research paper attached to the AER submission to the Directions paper. Mr Biggar states (page 2):

“Finally, the Directions Paper seems to associate price spikes and the exercise of market power, and goes to some length to disassociate transient price spikes from ‘substantial market power’. However there is no necessary link between price spikes and market power. Episodes of high prices (price spikes) are an essential part of any energy only market. Market power is associated with the **voluntary withholding of generation capacity**. Price spikes can (and normally should) occur even when no generator is withholding capacity. Conversely, a generator can withhold capacity, and have a material impact on annual average prices, without ever raising the price high enough to constitute a price “spike”. It would be helpful for the Discussion Paper to more clearly separate price spikes from market power.” (emphasis added)

In its deliberations and assessments, the AEMC must distinguish between the market prices and costs arising from the exercise of market power arising from economic withdrawal of capacity and the prices and costs that come from underlying scarcity of capacity.

Therefore the MEU comments in the following sections recognise that this distinction must be made and ensure that the effects of the scarcity of supply are adjusted out of the assessment equation.

It is clear that the considerable MEU disquiet has with the AEMC approach is shared by the AER. Since its report “State of the energy Markets” issued in 2009, the AER has consistently raised its concerns regarding the exercise of market power.

In its response to the Directions Paper, the AER provides a table of volume weighted average prices for all regions in the NEM which is replicated below:

Table 1 - Annual volume weighted average prices (\$/MWh)

| | QLD | NSW | VIC | SA | TAS |
|-----------|-----|-----|-----|-----|-----|
| 2010-11 | 34 | 43 | 29 | 42 | 31 |
| 2009-10 | 37 | 52 | 42 | 82 | 30 |
| 2008-09 | 36 | 43 | 49 | 69 | 62 |
| 2007-08 | 58 | 44 | 51 | 101 | 57 |
| 2006-07 | 57 | 67 | 61 | 59 | 51 |
| 2005-06 | 31 | 43 | 36 | 44 | 59 |
| 2004-05 | 31 | 46 | 29 | 39 | |
| 2003-04 | 31 | 37 | 27 | 39 | |
| 2002-03 | 41 | 37 | 30 | 33 | |
| 2001-02 | 38 | 38 | 33 | 34 | |
| 2000-01 | 45 | 41 | 49 | 67 | |
| 1999-2000 | 49 | 30 | 28 | 69 | |
| 1998-99* | 60 | 25 | 27 | 54 | |

* 6 months

The AER comments (page 7 of its submission to the Directions Paper) that:

“The table indicates that South Australia had three years of high prices from 2007/08 to 2009/10. Prices in South Australia in 2007/08 averaged \$101/MWh, in 2008/09 were \$69/MWh and in 2009/10 were \$82/MWh. The 2007/08 South Australian price was the highest since NEM commencement, the 2009/10 price was the second highest since NEM commencement, and the 2008/09 price was the third highest since NEM commencement. While there are significant challenges for the AEMC in defining LRM (as highlighted above), it is difficult to see how such price outcomes could be less than a market LRM.”

Such high prices as were seen are supposed to signal a scarcity of capacity and thereby initiate investment in new generation. This was clearly the case in the SA region where high prices in 1999/00 and 2000/01 signalled the need for Pelican Point power station. Once Pelican Point PS was built, SA region prices fell signalling that there was no longer a need for additional generation.

Despite the apparent signalling for the need of additional generation in the region, baldly contradicting the apparent market signal, the AEMO Electricity Statement of Opportunities (ESoO) issued in 2009 highlights that new generation investment was not required in the SAVic region for another 4 years at the earliest and considers, in its alternative regional summer outlook, that the additional capacity could well be needed even later. This deferred need is reinforced in the 2011 ESoO which indicates that no new capacity is required in SA region until 2014/15 at the earliest despite there being no new dispatchable generation being provided in the interim. This means there is little doubt that the market signals in SA in 2008, 2009 and 2010 do not signal the need for more generation but result from other causes.

Such practical analysis indicates that the market price signals are totally at odds with quantitative assessments of need. This means that there is a need to examine the market for other reasons why there are these spurious price signals. Both the MEU and AER have stated a view that the high prices in 2008, 2009 and 2010 in the SA region were from the exercise of market power, and this has resulted in regional prices well in excess of those market signals indicating the need for additional generation that the SA region saw in 1999/00 and 2000/01.

2. RECAPPING KEY ISSUES AND CONCERNS

For the record, the MEU reiterates the key issues and concerns raised by it and other stakeholders in the round of consultations with regard to the AEMC Directions Paper.

In general terms, the AEMC's approach over-simplifies the issues surrounding the exercise of market power and, paradoxically, adds more complexities and difficulties in its attempt to decide on the materiality of the issue. In its approach, it presents a very limited analytical view of the exercise of market power in the NEM and avoids incorporating into its analysis many other detriments that have resulted from the exercise of market power.

What the AEMC approach does not address is the:

- Need to capture the effects when a dominant vertically integrated business exercises strategic behaviour, such as rent shifting, creating barriers to entry and adversely affecting competition in both generation and retail sectors
- Danger of over-looking how market power should be defined with respect to individual generators (the MEU rule change proposal is about dominant generators);
- Danger of using a 'bright line test' in its definition of substantial market power;
- Failure to recognise and assess the long term effects on retail contracts and standing contracts (in South Australia) arising from the short term price events that resulted from economic withdrawal of capacity;
- Failure to recognise and assess the long term competition and price effects arising from short term price manipulations by individual firms;

The AEMC has also failed to assess other measures of substantial market power (such as the Lerner index and the Pivotal Supply Index, as acknowledged by NERA) used in other jurisdictions that are focussed more on the structure of the market. This is an issue raised frequently by the MEU and, as pointed out by the AER, in their response to the AEMC Directions Paper, market structure is of critical importance because it dictates the potential for market power to be exercised.

The AEMC decision not to focus on easily identifiable actions, such as the economic withholding of capacity, has failed to address more fundamental aspects of more concern, as indicated in the analysis accompanying the MEU rule change proposal.

The MEU notes that its rule change proposal concerns a dominant generator (and related dominant retailer) able to manipulate prices via economic withholding of capacity. In other words, through short term events, signals are sent to potential investors (in new generation capacity) that the risks are very much higher than if a perfectly competitive market was operating.

By focusing on the long run marginal cost element, the AEMC risks overlooking the efficiency, competition and downstream deadweight damage that can occur from short term high price events. While short term high price events can (and should) occur when there is a scarcity of capacity in order to indicate a need for more generation investment, for a single market player to be able to generate short term high price events **in the absence of a scarcity of capacity** is demonstrably inefficient from a market perspective.

The AEMC has not addressed a fundamental business perspective that if a seller can arbitrarily set high prices in the short term, it does this because it seeks to improve both its present **and future** prospects. To concentrate purely on the present outcomes of the exercise of such an ability to set market spot prices, totally excludes one of the reasons why the market power was exercised and excludes the future effects on contracts from being included in its assessment.

In the MEU's view, these issues must be considered and to complement the proposed Price vs LRMC test as a measure of substantial market power. In relation to the Technical Paper, the MEU considers the NERA approach is far too simplistic (but perversely more complex) and ignores many relevant issues concerning the exercise of generator market power. By doing this, it excludes from the assessment equation, the impact on future contract prices that result from the exercise of market power.

As can be seen from the above comments (and those of the AER and other stakeholders) the MEU considers that the approach implicit in the NERA assessment equation does not address all of the market impacts that the exercise of market power results in. Notwithstanding this significant caveat, the following sections address the specific aspects of the approach detailed by NERA in its report.

3. CALCULATION OF LRMC

The Technical Paper prepared by NERA for the AEMC looks at the market as if it were a perfect market. On this basis the conclusions NERA draws with regard to the expected long term outcomes for short run marginal cost (SRMC) and long run marginal cost (LRMC) would seem valid.

It is interesting to note that NERA considers that over the long term, in a perfect market, the average values of SRMC and LRMC would be the same. This is in contrast to the view held by other experts, such as eminent electricity market economists Tirole and Joskow, who consider that the two will not equate over time. The difference between the two is referred to by them as the “black hole” money and they consider that payment for capacity addresses this shortfall. The fact that there is debate over this assumption provides doubt as to whether the conclusions drawn by NERA on this aspect are applicable to a market such as the NEM which does not reflect perfection, but is recognised as suffering significant structural problems in a number regions. These structural problems have been identified by ERIG and others and the MEU rule change proposal seeks to address).

3.1 Using the LRMC of the next entrant is inconsistent

The NERA paper considers that the best indicator of what should be expected of the wholesale price for electricity in a perfect market is the long run marginal cost¹ to deliver the product. The MEU does not agree that this is the case. What the MEU considers reflects the average wholesale price of power in a market, is the average cost derived from the sum of the operating costs, return on and of capital used and profit for the generators providing the power to the market. That this is case is borne out in practice by those seeking and selling wholesale contracts. A buyer of power does not expect to pay the same price for power from a base load generator as it does from an oil fired gas turbine generator!

NERA’s proposal seeks to match the actual prices for power (whether the spot price, contract prices, futures price or a combination of all) that occurred at some time in the past against the marginal cost for the next amount of capacity required by the market when there is a shortage identified. That is, the NERA approach would compare what actually occurred in the past against the cost for future power supplies. This is essentially comparing “apples with oranges”.

¹ The NERA test for identifying the existence of market power is the ratio of the wholesale price over the long run marginal cost

A more appropriate test to assess the impact of market power is to compare the price for the product delivered in the past against the cost incurred in delivering that product. The cost incurred would include all of the elements of delivery including a return on and of capital.

This approach reflects the approach that buyers use to assess what is an acceptable price for a product – they carry out an in depth analysis of the costs involved in providing the product from the facilities already providing the product to ensure that the price is reasonable. What they do not do is consider what the cost of the product might be from a new facility as a market will assume that a new entrant would attempt to deliver a lower cost (or better service) in order to be competitive with existing providers.

In a similar fashion a new investor in delivering a product would assess what the actual market prices for that product are, and would not invest unless it could see that its cost for providing that product would be competitive compared to the current market price.

The MEU does not agree that the LRMC for the next unit (1 MW) of supply is a reasonable basis against which to compare for the price of the product that occurred in the past. A proper comparator is the long run cost for delivering the product at the same time period for which the price has been calculated.

In this regard, NERA makes the comment that:

“The perturbation approach is consistent with the earlier discussion explaining the concept of LRMC because it directly estimates the change in future costs (both the operating costs of existing generation plus the capital and operating costs of an increase in generation capacity needed to supply the increment in demand).”

Here NERA discusses the calculation of **future** demand with the **future** cost. This is entirely consistent as both make reference to future needs. What NERA proposes in its assessment equation is that it seeks to compare past demand (and the associated past price) with future costs. Clearly this is inconsistent.

3.2 What is the basis for calculating the cost element of the equation?

NERA suggest that there are two bases for assessing the cost element of its equation – the perturbation approach and the average incremental cost approach. NERA sees the need for using one or other of these because the cost for the next element of demand will vary considerably with the technology used and the size of the generator being built. NERA posits that over an extended time frame (NERA suggests that this might be as long as 20 years)

the average incremental cost and the perturbation approach would provide similar outcomes for an appropriate mix of technologies for generation,

This is indeed a bold assumption. Since 1992 (ie 20 years ago) the NEM regions have seen few base load generation plants built and only one was a coal fired generator. Of all dispatchable generation built in the past 20 years, there has been a massive bias towards the provision of peaking plants. On this basis, using this 20 year time frame, the NERA assumption would lead to the conclusion that the LRMC mix assessment would be based predominantly on peaking plants. Whilst there is a valid argument that there should have been a preponderance of peaking plants for this past 20 year period, the fact that it occurred in a 20 year window of time shows that the NERA assumption is flawed. In contrast, the 20 year time frame prior to 1992 (ie from 1972), displayed a heavy bias towards coal fired base load generation, equally disproving the NERA assumption.

To overcome this potential bias, using the actual mix of generation in the market used over the time period for which the price is to be calculated and in proportion to the amount of power each generation type provided, would provide a much more representative mix of generation for the development of a realistic and comparable cost.

3.3 The generation missing is that which is economically withdrawn

Even using the actual mix of generation technologies still does not recognise that the aspect of market power the MEU sees is creating the significant wealth transfers and deadweight losses, relates to the fact that it is large generators which are economically withdrawing capacity from the market in order to increase short term prices.

If the capacity that is withdrawn is baseload generation, to ensure the generation mix continues to be representative of the market supply mix in total, for the purposes of assessing the impact of the economic withdrawal of capacity, the generation technology that should be used, is that type which was withdrawn.

For example, if the generator that was withdrawing capacity was Loy Yang power station (which according to Justice French did occur in summer of 2000/01) then this withdrawal would have changed the mix of generation supplying power to the market as the new mix would be absent some brown coal fired base load generation and would be replaced by gas fired peaking generation. Thus the cost of the withdrawn capacity should not be replaced with more expensive generation as this biases the equation outcome.

To reinstate the actual mix of generation in the market would require the provision of brown coal fired base load generation to replace that withdrawn. It would not require replacement of this withdrawn capacity by gas or oiled fired peaking plant. To assume that the cost of the replacement generation would be representative of the missing capacity would bias the cost of the mix by including peaking generation that is not representative of the capacity withdrawn.

Because the issue that is to be addressed is the economic withdrawal of capacity, to maintain consistency, the cost of the capacity withdrawn must be the basis of the cost element of the equation.

3.4 Should the cost be long run or short run?

The NERA paper discusses the difference between short run cost and long run cost. As short run cost assumes that capacity does not change (as distinct from long run cost where capacity can change), essentially the short run cost excludes the capital costs of the capacity provided.

With the exercise of market power, there is no scarcity of capacity because the market power is exercised by economic withholding of capacity. This means that the capacity is already provided and to assume that additional capacity is required to compensate for the withdrawal (as would be the case if a long run cost was used in the equation) would impose inefficiency in the market – it is inefficient to provide additional capacity when such capacity is not required.

The AEMC is required to assess rule changes on the basis of the National Electricity Objective (NEO). The NEO is written in terms of the long term interests of consumers and the AEMC has determined that the requirement of the NEO will be achieved if the change delivers the most efficient outcome. Imposing an inefficient cost as a test does not comply with the NEO requirement.

The savings that a generator makes by withdrawing capacity are only its short run costs. The market will be most efficient if the withdrawn capacity is replaced by a cost which reflects the short run costs avoided by the withdrawal of capacity. To replace avoided costs (which are short run costs) with long run costs for new generation does not reflect an efficient market.

The MEU considers that the cost element that should be used in the equation should reflect the avoided cost of economically withdrawn generation and not be based on the cost of providing additional capacity which is included in a long run cost.

4. CALCULATION OF PRICE

As noted above, any assessment of the market price should not include the effects of a scarcity of capacity, as scarcities of capacity quite rightly should be seen in the market so that action can be taken to address the scarcity. In contrast, with the exercise of market power, the apparent market signal does not indicate a scarcity of supply.

Therefore, the price element used in the equation must exclude the impacts from scarcity of supply whether this results from a lack of generation or because of transmission or generation outages. The MEU rule change proposal and the supporting calculations do exclude the price effects of scarce supply. However, the price element must include for all the costs that result from the exercise of market power – this aspect is more fully discussed in sections 1 and 2 above

We note that the NERA paper recognises the inherent difficulty in identifying the wholesale price initially proposed which includes spot, contract and futures prices. As a result the NERA paper suggests that the primary source of the price element of the equation would come from the spot price. The MEU agrees with NERA that using the spot price without excluding the scarcity effects is likely to distort the outcome.

NERA suggests that it will carry out some assessment of prices using available contract prices and the futures market. The MEU agrees that this is a sensible approach and will consider how it might assist the AEMC in getting a better understanding of the longer term effects of the exercise of market power.

What is clearly apparent is that just using the historic spot market data will not provide an indication of the impact of the exercise of market power in later years. As the MEU (and the AER) has consistently highlighted is that the effects of high prices in one year can have a significant impact on contract prices in subsequent years. As many consumers in the past have entered into retail supply contracts for as long as 5 -10 years, the long term effect of artificially high spot prices, can linger for many years. For example, the MEU is aware that a number of SA consumers entered into 5 year retail contracts which were based on the high prices applying in the region in 1999/00 and 2000/01. In more recent times, contracts have tended to be shorter, up to 3 years in length.

The high prices caused in the SA region in 2008 had a significant impact on contract (and futures prices) for 2009 and 2010 and contracts were entered into (as they were in 2001) based on these high spot prices. Therefore, just

including the spot prices for one year in the assessment equation excludes the price impacts in later years and therefore understates the actual temporal impact that the high prices cause. Where the high prices were the result of the exercise of market power, this downstream effect provides a significant deadweight loss across the entire regional economy.

5. The SSNIP TEST

The NERA paper comments that the SSNIP test would entail development of the argument that the “defeat” of the SSNIP test cannot occur. Alternatively put, defeat of the SSNIP test would entail a conclusion that the firm with the market power could not increase its prices because to do so would not be profitable.

What the MEU (and the AER) has seen occur in the electricity market, is that generators with market power have been able to repeatedly use their market power to impact prices. Initially seen in Victoria by Loy Yang (as identified by Justice French) the practice was implemented by the large generators in NSW (Macquarie, Delta and Eraring) which have all exercised market power in NSW, most commonly to clear the Electricity Tariff Equalisation Fund (ETEF) in the early years of last decade. More recently, there has been seen the repeated exercise of market power by the AGL owned Torrens Island PS in the SA region during the first quarters of 2008, 2009 and 2010.

This means that the rules have permitted the continued exercise of market power over an extended period. It also means that the practice is profitable for the generators as there have been repeated exercises of economic withholding to drive spot prices higher. The fact that there has been repetition by a number of different generators clearly shows that the practice is profitable.

Electricity markets are widely recognised to exhibit very low elasticity of demand, particularly in the short term. That is, consumers have little alternative but to use electricity regardless of price. This particularly applies in the case of the NEM which is an ex post market – that the price of electricity used is not known until after the electricity has been used.

Bearing in mind that the practice of economic withholding capacity is still continuing, if the NERA approach to testing the SSNIP results in any other conclusion than that the practice is easy to implement and is profitable, this would indicate that the NERA defined approach to the SSNIP test is flawed.