

Australian Energy Markets Commission

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

Reference Code ERC0123

Comments on the Consultation Paper

Submission by

The Major Energy Users Inc

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Executive Summary

The Major Energy Users Inc (MEU) welcomes the opportunity to provide comments on the AEMC's Issues Paper issued for consultation as part of its assessment of the rule change proposal provided by the MEU to limit the exercise of generator market power.

Consumers are seeing rapidly increasing costs for electricity supplies delivered to their points of supply, reflecting structural changes in the market, the unbalanced network investment rules, and massive government social policy interventions. This rule change is in part aimed at reducing these costs to more efficient levels.

The MEU points out that the Discussion Paper seems to be focused on obtaining proof that the rule change provides "long term benefits to consumers" as required by the National Electricity Objective. The MEU considers that it has established (along with other expert bodies, such as AER and ERIG) that generators can exercise its market power in the NEM and by doing so cause transfers of wealth from consumers to generators then, in the MEU's view, the market is inefficient. The market is required to be efficient under the National Electricity Law. This means that the AEMC should require opponents of the rule change to prove that the detriments of the rule change outweigh the retention of what are demonstrably inefficient elements within the rules governing the wholesale market.

The MEU notes that the rule change proposed by the MEU provides extensive data and comment. Because of this, the response from the MEU only addresses those aspects of the AEMC Discussion Paper which are not addressed more comprehensively in the rule change proposal.

1. Introduction

The Major Energy Users Inc (MEU) welcomes the opportunity to provide its comments on the AEMC's consultation paper relating to the generator market power rule change proposed by the MEU.

The purpose of this response is not to reiterate the aspects that are more fully covered by the rule change proposal, but to address specific issues raised by the AEMC which are additional to those covered in the rule change proposal.

Accordingly, throughout this submission the MEU will only focus on those issues raised by the AEMC.

1.1 About the MEU

The Major Energy Users Inc (MEU) represents some 20 large energy using companies across the NEM and in Western Australia and the Northern Territory. Member companies are drawn from the following industries:

- Iron and steel
- Cement
- Paper, pulp and cardboard
- Aluminium
- Processed minerals
- Fertilizers and mining explosives
- Tourism accommodation
- Mining

MEU members have a major presence in regional centres throughout Australia, e.g. Western Sydney, Newcastle, Gladstone, Port Kembla, Albury, Mount Gambier, Whyalla, Westernport, Geelong, Launceston, Port Pirie, Kwinana and Darwin.

The articles of the MEU require it to focus on the cost, quality, reliability and sustainability of energy supplies essential for the continuing operations of the members who have invested \$ billions to establish and maintain their facilities.

Because the MEU members in many cases have their major manufacturing operations located in regional centres, the members require the MEU to ensure that its comments also reflect the needs of the many small businesses that depend on the existence of large manufacturing operations, and the many residential electricity consumers that make up the members' workforces and contractors.

1.2 The MEU view of the energy markets as a whole

The MEU considers that the rule change proposal should be addressed in the context of the electricity market as it is now operating. In this regard, consumers are already seeing escalating electricity costs stemming from a range of causes, such as:

- Generator market power itself (the focus of the proposed rule change)
- Steeply rising transmission and distribution network prices on average these will rise in real terms by ~50% over the next five years¹ even though some consumers have seen prices rises of this magnitude in the last 1-2 years
- The electricity market exhibiting reduced competitive pressures, excessive volatility in wholesale electricity prices, and as a result retailers are including in retail price offerings, larger risk and profit maximisation premiums, which are causing significant retail contract price increases
- The introduction of a price on carbon
- Implementation of the 20% renewable electricity target (eRET)
- The indirect costs caused by the need to augment networks to meet the carbon emission reduction and eRET requirements
- Myriad (and sometimes duplicative) Federal and State Government renewable energy, energy efficiency and climate change programs and 'initiatives', such as feed-in tariff schemes, climate change levies, energy efficiency programs, etc

Overall, there is a general expectation that electricity supply costs will rise in real terms by 100% or more over the next few years as a result of these changes, a significant proportion of which is driven by the many government interventions in a supposedly competitive market. This is having a 'chilling' effect on downstream investments and creating an environment where the ability to pay is becoming a major issue for all consumers, ranging from large industrials facing international competition to small consumers, especially in the lowest income quintiles.

In a recent submission to the AEMC², the MEU drew attention to information provided in the recent Garnaut Update #8, particularly the following three graphics:

¹ Weighted annualised average increases for the three years 2010, 2011 and 1012 shown in the table in appendix 1 gives an increase of ~40%

² MEU, Submission on the AEMC's Strategic Priorities for Energy Market Development, May 2011.

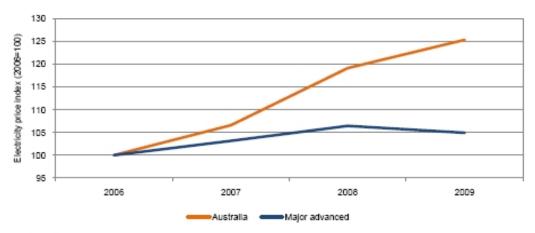
Table 1: Consumer Price Index - Electricity

	Average annual inflation Per cent		Household electricity price ¹⁴ Share of income per capita	
	1990-1999 ⁽⁸⁾	2000-2009	Year to latest	2009
Australia ^(c)	1.6	5.0	12.4	2.8
Canada	3.3	2.5	8.1	1.9
France	na	0.8	3.1	2.8
Germany	0.7	4.5	3.3	6.3
Japan	-0.7	-0.8	3.0	5.1
United Kingdom	-2.8	6.0	-0.4	5.6
United States	0.9	4.2	0.6	2.6

⁽a) Price per 10 MWh, in local currency, where 2009 price level data were not available, the latest available data were extended to 2009 using CPI electricity prices; United States price includes tax
(b) Data from 1991 for Germany, and from 1996 for the United Kingdom
(c) Adjusted for the tax changes of 1999–2000
Sources: AIES, International Energy Agency; RBA; Thomson Reuters

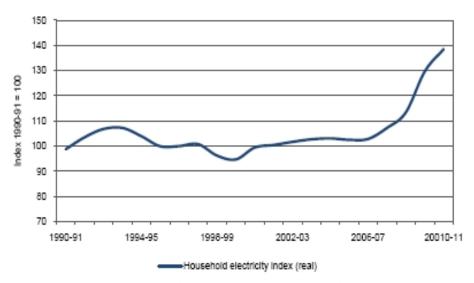
Source: Plumb and Davis (2010)

Figure 1: Real electricity prices in Australia and the seven major advanced economies, 2006 to 2009, index in US dollars



Source: IEA 2009, OECD 2010.

Figure 2: Real household electricity price movements (constant 100 would mean electricity prices rising at same rate as other prices)



Source: Australian Bureau of Statistics, Consumer price index for electricity (Category 6401.0).

The three graphics show escalating Australian electricity prices relative to seven major advanced economies from 2006 to 2009 and the rise in Australian real household electricity prices from 1990/91 to 2010/11.

The MEU concluded from an assessment of the key drivers of the escalating Australian electricity prices that:

"...because Australia is an open economy and Australian industries are exposed to international competition, it is the trends in relative prices that are of greatest import. If electricity input costs in Australia are rising faster than Australia's international competitors (despite our abundant energy resource endowments) then the "benefits" arising from the reform programme in the NEM need to be qualified" (MEU, page 9).

The MEU also drew attention to the significant changes in the market structure of the NEM (which have reduced competitive pressures), with increased concentration of the electricity supply industry, re-aggregation of generation with retail, including the creation of vertically-integrated businesses that have dominance in both generation and retail in a specific regional market, and the increased barriers to new entrants in generation and retail, with the latter also accompanied by the exiting of some second tier retailers from particular regions (see section 2).

The MEU's rule change seeks to demonstrate the ease at which generator market power is exercised, the frequency and duration of that exercise of

market power, and the adverse economic consequences arising (such as higher prices).

1.3 The genesis of the generator market power rule change proposal

The rule change proposal on generator market power is specifically targeted to prevent large base load and mid merit generators from using their market power to raise wholesale electricity prices above those that would otherwise apply if there was sufficient competition between generators as was intended by the national electricity market design.

When there is sufficient competition, the market would evidence a wholesale price that reflected the marginal cost of generation. At low demand times, the wholesale price should reflect the price at which a generator balances the costs of maintaining output against the costs of stopping and restarting generation, such as keeping the boilers steaming. At high demand times, the wholesale price reflects the cost of having fast start generation, which is only occasionally dispatched.

The most efficient dispatch of generation is where the merit order of generation dispatch is set by the relative costs for generation. In theory, the first generation dispatched is the large low cost base load generators which, for thermal efficiency reasons, operate best when continuously generating. It is inefficient to scale back output from a base or mid merit generator so that a thermally inefficient fast start plant (such as an open cycle gas turbine) is dispatched in preference to a more thermally efficient generator.

In the case where a base load generator has market power, inefficient dispatch does occur, and this rule change proposal is intended to prevent this occurring through the application of financial incentives.

The MEU included in its proposal that dominant generators would only be price constrained to the Administered Price Cap (APC) and then only when they have market power. The decision to use APC as the constraint level was because the AEMC had previously established that this level was needed to be above the marginal cost for all types of generators operating in the NEM, so that the application of this limit would ensure there was still a profitable return to any dominant generator so constrained by application of the rule change.

Equally, using the APC as the constraint level would likely produce a regional price result that more closely reflects a dispatch process which is efficient. The MEU considered that an outcome that replicated an efficient merit order dispatch of generation in a region will result in a better outcome for market participants and consumers. In this way, by ensuring a dispatch which reflects a cost efficient merit order of generation, then the imposition of the upper price limit would not negatively impact generation investment.

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1.4 Summary

Consumers are facing considerable price impacts for their electricity supplies. A key driver is due to the significant changes in the market structure of the NEM. It is not reasonable that these price rises be exacerbated by dominant generators using their market power to further increase electricity prices, and by doing so create a significant transfer of wealth away from consumers.

The MEU rule change proposal is intended to maintain efficient dispatch of generation on a merit order that is based on lowest cost, most efficient generation being dispatched ahead of higher cost, less efficient generation.

2. The AEMC Rule change proposal approach and the NEO

The Second Reading Speeches for the 2005 and 2007 amendments to the NEL make it clear that competition is the basis for maximising efficiency in generation and retailing. It is efficiency that will deliver the least cost to consumers.

The MEU agrees that the National Electricity Objective (NEO) should be the basis for rule changes and this is outlined in the rule change proposal.

2.1 The proposed rule change and the NEO

The consultation paper prepared by the AEMC provides a sound approach to clarifying the issues behind the MEU decision to seek a rule change to address the damaging effects from the exercise of generator market power.

The NEO is drafted in a way that requires the rule maker (AEMC) to ensure that the supply of electricity to consumers must be delivered in a way that ensures the maximum efficiency is achieved by the market. As Minister Hill (for Minister Conlon) noted³ when discussing the NEO in the second reading speech for the NEL amendments in 2005

"The national electricity market objective in the new National Electricity Law is to promote efficient investment in, and efficient use of, electricity services for the long term interests of consumers of electricity with respect to price, quality, reliability and security of supply of electricity, and the safety, reliability and security of the national electricity system.

The market objective is an economic concept and should be interpreted as such. For example, investment in and use of electricity services will be efficient when services are supplied in the long run at least cost, resources including infrastructure are used to deliver the greatest possible benefit and there is innovation and investment in response to changes in consumer needs and productive opportunities.

The long term interest of consumers of electricity requires the economic welfare of consumers, over the long term, to be maximised. If the National Electricity Market is efficient in an economic sense the long term economic interests of consumers in respect of price, quality, reliability, safety and security of electricity services will be maximised.

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³ Hansard, SA House of Assembly 9 February 2005

... Applying an objective of economic efficiency recognises that, in a general sense, the national electricity market should be competitive, that any person wishing to enter the market should not be treated more nor less favourably than persons already participating in the market, and that particular energy sources or technologies should not be treated more nor less favourably than other energy sources or technologies." (emphases added)

Efficiency in the market over the long term will deliver the least cost to consumers. It is patently inefficient if a generator can exercise market power and as a result cause a transfer of wealth from consumers to generators.

With the above in mind, the AEMC should accept the premise that the current rules allow a generator to exercise its market power to the detriment of consumers. The AEMC should therefore be examining the rule change proposal with the onus of proof for not implementing the change lying with those who oppose the rule. Put another way the AEMC should be requiring opponents of the rule change proposal to prove that the detriments of the change outweigh the benefits to consumers such that this inefficiency in the market should be accepted by consumers and retained.

2.2 Impact of market rules on end users

Despite this support for the NEO being used for the basis of making rule changes, the MEU has seen a number of less than efficient outcomes in the NEM. These are:

- Islanding of NEM regions leading to price separations, frequency of price spikes and exercise of generator market power – this is the basis for the rule change proposal. The frequency and magnitude of these price separations is increasing and the ACCC and AER both have commented on this observation.
- 2) Inter-regional congestion and constraints are more frequent and there is an absence of new interconnection investments, reflecting lack of priority given by TNSPs who are more intra-regionally focussed. A lack of inter-regional transmission investment has increased the frequency and duration of these price separations.
- 3) There are extremely muted locational signals for new generation and the AER guidelines are not consistent with the intention of the AEMC Chapter 6A Rules to require the "causer" to pay.
- 4) Unit costs are rising. Peak demand is rising faster than consumption. This, combined with intermittent generation, has resulted in the need for more investment but a lower utilisation of transmission.
- 5) Proposals to accommodate environmental objectives (such as SENE) increases costs and risks to consumers.

- 6) The Chapter 6A Rules do not require the costs of redundant assets to be carried by the transmission businesses nor do they require assets to be optimised in the RAB, leaving the costs for these redundant assets to be carried by consumers
- 7) The WACC allowed for transmission businesses is attractive compared to the asset type and the asset/risk balance, increasing costs and risks for consumers.

The MEU's rule change proposal should be assessed against the background of structural changes of the NEM over the recent years. These changes are described by the MEU, in its recent submission to the AEMC on its Strategic Priorities for Energy Market Development under the section heading of "The Australian Electricity Industry":

"The original concepts behind the NEM (as propounded by Professor Hilmer) were that disaggregation of the vertically integrated government owned electricity providers would result in increased efficiencies, prevent the extraction of monopoly rents in uncontestable sectors, and through robust competition in contestable sectors, with the latter delivering efficient services through efficient economic regulation.

Despite the initial moves in the electricity market to reduce the concentration of ownership, the Australian electricity industry has, in fact, become more concentrated, with re-aggregation between retailers and generators⁴. During the 'reform period', this concentration has resulted in fewer retailers and three dominant vertically integrated "gentailer" businesses dealing in multi-fuels, including wind and solar energy. Investments in new generation have largely been undertaken by these vertically integrated businesses, and there appears little interest by merchant/independent generators to build new generation assets.

These outcomes (ie fewer independent generators and a very few very large retailers which are also the major providers of new generation) would seem to indicate that the entry barriers are higher in both retail and generator sectors than earlier in the disaggregation process.

In the wholesale market, the exercise of generator market power is frequent, especially in certain regions such as South Australia, and there is evidence of the resulting economic damage on consumers⁵.

⁴ For example, it is interesting to note that Origin Energy and AGL Energy are now larger businesses than any of the state owned entities that were the initial focus of the disaggregation

⁵ This is extensively documented in the MEU's Proposed Rule Change to Enhance Generator Competition Outcomes During High Demand Periods in the NEM

The AEMC notes "the increased trend for vertically integrated gentailers to finance new investment" (AEMC, page 27) and states:

"It is important that the energy markets provide opportunities for a range of business models to have a chance to succeed. Those models which best meet the needs of customers and shareholders will be the ones that survive in the longer term. Business models will differ in terms of company structure, such as the degree of vertical integration, ownership structure and capital structure, including the role of debt and equity in financing" (AEMC, page 28).

The MEU believes that the NEM's volatility (and hence the increased risks and higher transactions costs), and the consequential re-aggregation of generators and retailers and their observed increased investments in new generation, are the result of higher entry barriers to new entrants. The future, therefore, is that the NEM will continue to rely on the dominant vertically-integrated businesses to make new generation investments. This is in stark contrast to the expectation that greater competition and efficiency would result and be maintained from the disaggregation of the government owned vertically electricity supply entities.

Essentially, what is being achieved **now** under the existing energy market framework is the progressive replication of an industry structure that was previously seen as inefficient, but without the controls/discipline that applied under government ownership.

It seems obvious, therefore, to investigate:

- How barriers to new entry in generation (and retail) could be minimised or reduced to encourage new entrants
- How the volatility, risks and increased transactions and prudential costs could be minimised or reduced to facilitate/enhance competition
- How the exercise of market power by dominant generators could be minimised and competition enhanced
- Whether the increase costs for providing networks reflect increased efficiency and whether the rules institute inefficient practices.
- Whether new trading arrangements or new business models, (such as those embracing bilateral physical contracts to be underwritten between major users and merchant/independent/existing generation businesses) would facilitate increased investment in new generation

The MEU agrees with the AEMC's assessment that if the trend in new generation investment observed in recent years continues (concentrated amongst a smaller number of large generator retailers) then,

"... it could have implications for the degree of competition in the market and the liquidity of the contract markets" (AEMC, page 27).

The MEU has analysed the degree of competition in the NEM based on analysis of the Herfindahl Hirschman Index (HHI), which is an index typically used to provide a helicopter view of market competition. The revealed trends are not encouraging.

For example, the HHI for retail in the NEM (now that EnergyAustralia, Integral and Country Energy retail functions have been acquired by Origin Energy and TRUenergy) indicates that the electricity retail market is classified as "highly concentrated".

Generation is classified as "moderately concentrated" on a NEM wide basis, but in each region of the NEM, generation is "highly concentrated" in all regions but Victoria, where it is classed as "moderately concentrated".

Of interest is that the HHI for generation in the NEM states prior to disaggregation indicates that generation only just reached the classification of "highly concentrated", and the market concentration of retail is of a similar order. This indicates that whilst the process for disaggregation of generation has achieved some small reduction in generation market concentration, the outcome for retail shows that there has been an increase in market concentration on a NEM wide basis.

Quantitative analysis clearly reinforces the intuitive views that the NEM has achieved only small gains in generation competition (although there are marked regional differences) but retail concentration has increased markedly in recent years.

If such minimal reduction in generation competition has occurred but retail competition has concurrently reduced, then this provides prima facie a view that there are significant barriers to entry of new generation and even more so for new entrant retailers.

In the MEU's view, the issue of competition in the NEM and the related issue of barriers to new entrants in generation and retail, are significant and must be urgent strategic priorities for AEMC research and investigation." (MEU submission pages 10-12)

The MEU also draws attention to a number of aspects of the NEM which support the need for its rule change proposal.

In a submission to the ACCC in relation to authorisation of the co-insurance scheme proposed for the recent NSW electricity privatisation of assets, (September 2010), the MEU noted

"The MEU has consistently maintained that the NEM is not an integrated market but a series of interconnected regions. The impact of the frequency, extent and severity of resulting price separations needs to be incorporated into all reviews of the NEM. That this is the case has been clearly demonstrated to consumers who seek contracts from generators from an adjacent NEM region (e.g. a SA consumer seeking a contract from a Victorian generator). Consumers are unable to contract in such a form as the exporting generator sees that the risk of a constraint on an interconnector is too great for it to be able to guarantee to be able to supply. If this occurs now in the NEM, then it is unlikely to change just because the NSW government has implemented its proposed changes.

The ACCC is correct (in its determination concerning the coinsurance arrangements) in pointing to congestion and physical constraints on the interconnectors between the regions (e.g. between Queensland and NSW). These have led to significant price separation across all regions of the NEM.

As noted by the ACCC in its recent determination (ACCC, Authorisation Determination on Application by Macquarie Generation, Delta Electricity and Eraring Energy), in 2008/09 the NEM was not partially constrained at some point for only 70% of the time, implying the converse that there was price separation 30% of the time at some point in the NEM. For a supposedly fully integrated market, this degree of separation provides support for the MEU view that the NEM is not an integrated market at all, and that the NSW region should be considered alone for the basis for assessing the NSW privatisation arrangements with respect to the gentrader portfolios.

The MEU points to the following table showing the extent and frequency of price separations⁶ (which are quite significant) between NSW, Queensland and Victoria for the years 2006-2009:

⁶ For the purposes of this analysis, where the price separation between regions exceeded \$50/MWh, it is assumed that the interconnection between the adjacent regions is constrained

Frequency of half hour price separations >\$50/MWh	2006	2007	2008	2009
NSW and Queensland	157	414	146	209
NSW and Victoria	141	424	182	359
NSW concurrently with both Queensland and Victoria	32	87	20	108

Source of data: NEM Review

The above table shows that effectively NSW is partially constrained from being part of the entire NEM on a regular basis (i.e. separated from either Queensland or Victoria), and frequently isolated (i.e. effectively unconnected to both Queensland and Victoria at the same time).

When the frequency of such separations is factored into the analysis, this supports the view that the NSW generation market should be seen on a regional basis rather than on a NEM wide basis.

However, it is not only the frequency of such separations but the severity of them that needs to be considered. When a separation occurs, it allows the regional generators to operate in a less competitive environment. Where one or more of these generators has market power, spot prices can be driven to very high levels and which in turn will lead to significant transfers of wealth from consumers to generators (and now gentraders) with resulting deadweight losses to the NSW economy.

The ACCC supports the MEU contention that the NEM is essentially a series of connected regions because in its Final Decision denying authorisation for the co-insurance scheme, the ACCC noted that the NSW region was partially or fully islanded for considerable periods of time. At paragraph 2.4 the ACCC commented

"Congestion at the interconnectors that link the NEM regions may restrict the ability of imports/exports to flow between the respective regions and leads to significant price separation. For example, when congestion at an interconnector restricts a high demand region's ability to import electricity, prices in that region may spike above other regions in the NEM. In 2008-09 the NEM regions operated as an integrated market (price alignment across the regions) for 70 per cent of the time. The AER in the State of the Energy Market 2009 report notes that during 2008-09, the interconnectors across Queensland and NSW and across Victoria and NSW experienced congestion."

The reverse of this observation by the AER is that **for 30% of the time**, there was some constraint in the NEM which reduced the competition amongst generators.

Concerns with the exercise of market power have been voiced by ACCC Commissioner and AER Member, Ed Willett. (see Appendix 1):

"In a relatively concentrated market, and given the "pure" nature of the electricity market, this can lead to significant opportunities for price gouging."

and

"These unpredictable price spikes affect customers that buy electricity directly from the market (such as large industrial customers), the retailer (Aurora Energy) and potential new entrants. Large energy users trying to engage in demand management have been frustrated by these events, which include sudden spikes at off-peak times"

and

"To sum up, the National Electricity market is a well designed market that allows participants commercial freedom to choose their price risk exposure in spot and forward markets. Most of the time it also provides efficient price signals for new investment. But the market relies on genuine competition. It is not designed to cope with highly concentrated generation markets and sustained and substantial market power."

2.3 Summary

What the AEMC Discussion Paper does not address in a climate of increasing costs to consumers for the supply of electricity, is that there is a need to address ever escalating costs for power. This rule change is in part driven by a need to reduce the costs of power seen at the consumers' point of supply.

The AEMC examination should reflect that allowing the exercise of market power is essentially not efficient. The Discussion Paper seems to take the view that the onus of proof for implementing a change lies with the proponent. In fact the onus lies with proving that retaining an obvious inefficiency is preferable.

The AEMC Discussion Paper does not examine the issues of significant and substantial changes in market structure of the NEM, which inter alia, have resulted in greater concentration, higher barriers to new entrants, reaggregation of generation with retail, and increased volatility, risks and hence prices.

3. Specific questions raised by AEMC

The MEU has submitted its rule change proposal and many of the MEU responses to the questions posed by the AEMC have been addressed in the proposal.

Because of this the MEU has only addressed those questions where the rule change proposal documentation does not provide the MEU views to these questions.

The MEU notes that the rule change proposed by the MEU provides extensive data and comment. Because of this, the response from the MEU only addresses those aspects of the AEMC Discussion Paper which are not addressed more comprehensively in the rule change proposal.

	Specific issue	MEU response
Question 1 What is market power in the context of the NEM?	1.1a What is an appropriate definition for the relevant market in which to examine whether market power is being exercised?	The possession of market power is per se not the main issue, it is more that when the possessor of the market power elects to exercise its market power and uses this to create a transfer of wealth to itself when there is no competition to apply appropriate constraints. What occurs when generator market power is exercised, is that the market is signalling a high price in the absence of any market shortage of power, whereas the market is intended to signal a high price when there is a shortage.
	1.1b What are the relevant product, functional, geographic and temporal dimensions?	The dimensions are the generation of electricity into the NEM, in a particular region, when the regional demand is sufficiently high that the generator with market power is not exposed to competition above certain identifiable levels of demand and must be dispatched in order to meet the regional demand.
	1.2 How should market power be defined in the context of the NEM?	The MEU has proposed in its proposal its view on what constitutes market power in terms of generation in an electricity supply arrangement. Essentially, if there is any generator that must be dispatched when the regional demand is less than that forecast for the next year or which has been previously recorded in a region, then that generator has the power to unilaterally set the regional spot price.
	1.3 Do barriers to entry in the market exist such that the exercise of market power would not be constrained by potential entrants?	There are three issues that this question raises. The first is that the provision of new generation takes time to implement. This means that the incumbent generator is able to exercise its market power until new generation becomes available. Secondly, the price signal that the exercise of generator market power provides is essentially fallacious. This means that a new entrant generator would know that the price signal was false and that when it entered the market, the price signal would change significantly because the high price was not signalling a shortage of supply. Thirdly, the exercise of market power occurs usually at high system demand times (but can also occur at off-peak times) and it is obvious that the exercise of generator market power is not signalling a shortage of supply. New generation is incentivised when there is a shortage of supply. Put another way, if there is not enough total supply capacity in a market, high prices directly caused by peak demand levels signal that an enterprise bringing additional

		capacity into the market is likely to find it commercially justified to do so. But if there is enough total capacity to satisfactorily serve the demand in the market, and high prices are created from time to time by a supplier with monopoly power exercising that power and effectively withholding some supply, then an enterprise considering bringing additional capacity into the market has to worry that the entity responsible for the
		price spikes will alter its behaviour in the presence of the additional capacity, and make the "new entrant" profit opportunity disappear. As long as potential bringers of additional capacity worry enough about this, they will not act and the consumers in the market will continue to see unnecessarily high prices due to the exercise of market power.
Question 2 What is 'exercise' of market power in the context of the NEM?	2.1 Are the existing competition law tests for 'taking advantage' or 'abuse' of market power an appropriate test in the context of this Rule change request?	No. The proposal makes this clear, and electricity market rules used in other jurisdictions see that generator market power must be addressed within the rules due to the unique features of electricity. The proposal identifies that ERIG also sees that that the rules are the best location for addressing the issue of generator market power (see MEU proposal page 20)
	2.2 Alternatively, should the Commission develop a different test for assessing whether market power has been exercised in the context of generation in the NEM? If so, what elements might it contain? For example, should it contain the concepts of sustained	Yes, if the proposed MEU rule change is not implemented. The rules should be changed to address the issue, just as been seen in other jurisdictions. The MEU proposal provides its own solution to managing this issue. The suggestion that "sustained price rises" might be an indicator for a need to make change is misleading. Because of the very high maximum price cap, there only needs to be very short periods of time for the exercise of market power to achieve very large transfers of wealth from consumers.

	price rises above the competitive level and/or profitability?	As well, sustained periods of high prices might signal shortages of supply and the MEU proposal points out that it is addressing only the exercise of market power, rather than high prices per se. The approach in the proposal clearly differentiates between exercise of market power and when shortage of supply is being signalled.
Question 3 What impact is the exercise of market power likely to have on efficiency?	3.1 How might the exercise of market power impact on allocative efficiency in the NEM?	There is no doubt that the exercise of market power has resulted in transfers of wealth that would not have occurred in the absence of the market power. If a market is efficient, then the market will provide the least cost to consumers. Allowing a generator to transfer wealth to itself from consumers through the exercise of market power, is not a least cost outcome. The spot prices in the NEM regions where market power has been exercised have resulted in prices being higher than they would normally be for generation of the type used in the region. This has had a direct impact on stakeholders (especially large consumers of electricity and retailers) exposed to the spot market having to pay significantly more for power than they should. Large electricity users exposed to the spot market have had to reduce production significantly in order to avoid the very high prices that have resulted from exercise of market power. What has been seen in regions where market power has been exercised, is that retail prices for power have also increased and competition amongst retailers has reduced. Clearly allocative inefficiency has occurred as a result of exercise of generator market power
	3.2 How might the exercise of market power impact on productive efficiency in the NEM?	When a more thermally efficient (base load or mid merit) generator reduces output to cause the dispatch of less thermally efficient fast start generator or when the former withdraws capacity to create an artificial shortage, this results in lower productive efficiency.
	3.3 How might the exercise of	As a result of the exercise of market power, new fast start generation has been built as a

	market power impact on dynamic efficiency in the NEM? 3.4 What other impacts might the exercise of market power have on efficiency and/or the long term interests of consumers?	means to manage risk. For example in SA, retailers such as Origin Energy have built their own fast start generation as a means to mitigate the risk of AGL's Torrens Island and Alinta's Flinders Power using their market power to increase spot prices in order to manage the risk of unnecessary high prices Consumers have seen retail prices increase significantly since AGL used Torrens Island to exercise market power in 2008, 2009 and 2010. The increases in SA have been much greater than increases in other NEM regions, indicating that the exercise of market power has been a significant contributor to the retail price rise.
Question 4 Is there evidence of the exercise of market power by generators?	4.1 Is there evidence that one or more generators in any region of the NEM has market power and has exercised that market power to increase the wholesale price? Please provide specific examples and evidence to support your response.	The AER in its State of the energy market 2009, (page 3) states: "Despite generally benign conditions, concerns remain that some generators have been exercising market power in some regions. The NEM was designed to minimise the risk of market power, through an interconnected transmission grid that allows competition between generators. But there are circumstances in which baseload generators can price capacity at around the market cap and be certain of at least partial dispatch. This behaviour is often more evident at times of peak demand, typically on days of extreme temperatures The AER referred in previous State of the energy market reports to generators exercising market power in New South Wales in 2007 and South Australia in 2008. These occurrences were reflected in significant price spikes (figure 1). While some price events relate to exogenous factors such as extreme weather, bushfires and unplanned infrastructure outages, a number of spikes in the past two years coincided with strategic

	generator bidding."
	In its 2007 report ERIG has identified that exercise of market power in NSW occurred before the 2007 price spikes, indicating that the exercise of market power in NSW has been ongoing for many years
	In his presentation in 2009 to the conference energy 21C, Mr Ed Willet ACCC commissioner and AER member avers that in addition to exercise of market power in SA and NSW, there has been exercise of market power in Tasmania as well (see Appendix 1).
	With the proposed transfer of some Tarong generation assets to CS Energy, CS Energy now has market power at demand levels lower than the peaks forecast for Queensland in AEMO SoO or actually reached.
	The basis for the exercise of market power are now present in most (if not all) NEM regions
4.2a Do you agree with the	Yes
Proponent that the conduct referred to in the Rule	Our reasons are in the proposal
change request constitutes	
an exercise of market	
power?	
4.2b If so, do you consider that	Yes.
this conduct is currently continuing and is likely to continue in the future?	The fundamentals of the issue will allow continued exercise of market power. For example, exercise of market power in NSW was obvious and observed by ERIG. Whilst TIPS has always had market power in SA, it was the change in ownership that triggered
	the exercise of it and Alinta Energy exercised its market power in 2011.

		It must be recognised that there is a flaw in the NEM rules (exacerbated by major structural changes in the NEM) that will permit the continuation of the exercise of generator market power. There are numerous examples where some generators have market power and have used their market power at times which are most propitious for them.
	4.3 Do you consider that the CCA adequately addresses the exercise of market power by generators, or do you consider that specific Rules provisions are required to supplement the CCA provisions?	No, for the reasons explained in the MEU proposal
Question 5 Will the proposed Rule effectively address the exercise of market power?	5.1 Do you consider that the proposed Rule is likely to prevent or constrain the ability of generators to exercise market power in a manner that reduces efficiency in the NEM and adversely affects the long term interests of consumers (if there is evidence of any such exercise of market power)?	No. The proposed rule is considered to be adequate to prevent the exercise of market power, and is structured in a way so as to increase efficiency in the NEM The purpose for setting the default price at APC for the times when a dominant generator could exercise market power, was to ensure that the dominant generator will receive income significantly in excess of it long run marginal cost and therefore remain commercially viable.

	5.2 How are other generators that are not declared to be a 'dominant generator' likely to change their behaviour if the proposed Rule is made?	The proposal addresses the potential for tacit or parallel collusion and where the AER identifies that a second generator has market power at a higher demand it has the ability to either declare a second dominant generator or not. In the case of SA, Alinta exercise market power early in 2011, so it would appear that the AER might nominate Alinta as a dominant generator in SA. There is potential for other generators in a region to modify their behaviour if the dominant generator(s) are constrained, but at this stage there is no clear evidence that such behaviour change (other than for the second most dominant generator to exercise market power) will be detrimental to the market.
	5.3 Should any Rule change that seeks to address the exercise of market power by generators also address tacit collusion or parallel behaviour by generators, or is it appropriate to limit the Rule change to the unilateral exercise of market power?	The MEU considered this issue in its examination of potential solutions, but determined that the increased complexity of addressing an issue that might not occur (other than declaration of second and third generators that might have market power at times of higher demand) did not warrant the inclusion of specific rules to modify the potential for tacit collusion. After all, it should be noted that the current trading arrangement allow for an inordinately high level of price signalling and signalling of bidding intentions. The rule change as proposed is quite simple and not as complex as the rules used in other jurisdictions to prevent the exercise of generator market power.
Question 6 What other options could effectively address the exercise of market	6.1 Do you consider that there are other options that could prevent or constrain the ability of generators to exercise market power in a manner that reduces efficiency in the NEM and adversely affects the long	There are other options to reduce the exercise of market power (eg the concept of extending the CPT period, and the approaches used in other jurisdictions) but the MEU considers that the proposal is superior to these in that: • It is less complex • Requires little change to current rules • More likely to result in achieving merit order dispatch • Only impacts on the market operation when regional demands are high • Only impacts the generator which has the ability to exercise market power and only then for times of high regional demand

power?	term interests of consumers (if there is evidence of any such exercise of market power)?	 Achieves a reduction in the volatility caused by the exercise of market power but retains the market signals caused by scarcity of supply Allows the dominant generator to still receive a return well in excess of its long run marginal cost even when its price is constrained Could reduce risks in the wholesale market and reduce new entrant barriers in generation and retail.
	6.2 If so, are those options likely to better to better contribute to the achievement of the NEO than the proposed Rule, and why?	The MEU considers that the other options are unlikely to have a better outcome than the rule changes proposed.
Question 7 What are the likely impacts of the proposed	7.1 What impact is the proposed Rule likely to have on wholesale electricity prices?	The wholesale spot prices will reduce in those regions where exercise of market power has increased the wholesale price. This reduction returns the regional wholesale prices that reflect competition at all levels of supply. Retail prices should also reflect the reduction in wholesale prices. Should barriers to new entrant generators (independent and merchant) be reduced, more competition will deliver lower wholesale prices.
Rule on the achievement of the NEO?	7.2 What impact is the proposed Rule likely to have on efficient investment in generation, in particular incentives for efficient entry of new generation?	This aspect is addressed in the MEU rule change proposal in sections 8.2.1 and 8.2.2 The MEU considers that there will not be a reduction in incentives and could result in improved incentives as the regional price will more truly reflect the dynamics of an efficiently operating wholesale market. Aspiring generation entrants will be better able to assess the market because it shows the outcomes of stronger competition.
	7.3 What impact is the proposed Rule likely to have on the efficient operation of	The MEU considers that the regional wholesale markets will be more efficient than the current arrangements where only a dominant generator can manipulate the market to achieve its own ends.

the wholesale electricity market?	The risks inherent in a market where a dominant generator can manipulate the wholesale price are much higher than where the market reflects strong competition. The ability to manipulate prices by one party can only have a negative impact on other elements of the market such as futures, swaps, options, etc and the ability of retailers (especially second tier retailers) to offer competitive prices, especially where the dominant generator is also the dominant retailer.
7.4 What impact is the proposed Rule likely to have on the efficient use of electricity services?	The MEU addresses this in section 8.1 Currently large electricity users exposed to the spot market reduce production when high prices occur. When, due to commercial arrangements to maintain production, the large user is unable to reduce its electricity consumption, it is heavily penalised. If these high prices are manipulated rather than the outcome of scarcity of supply, then their reductions in production are only caused by the dominant generator seeking to increase its wealth. Retailers serving the bulk of energy users have to increase their retail offerings to manage the increased risks they face as a result of market manipulation. Unnecessary retail premiums become a cost to all energy consumers, and will increase the costs of all production in the region.
7.5 What impact, if any, is the proposed Rule likely to have on the market for electricity derivative products and/or the retail electricity market?	The MEU addresses this issue specifically in sections 8.1.5 and 8.1.6 The MEU considers that the market for derivatives will improve as a result of the proposed rule because of the increased certainty in the wholesale market that will occur.
7.6 Do you consider that the proposed Rule is likely to	The designers of the NEM recognised that the NEM would operate at its most efficient when competition applies at all times. Currently there are times when some generators are not subject to competition at times because of their size relative to the regional

have any other impact on the achievement of the NEO? In the second reading spet the Minister stated: "Applying an objet the national election Assembly 9 Februal In the second reading spet Minister stated "In the second reading spet Minister stated" "In summary, the sumpliers is important.

demand. That competition is the key driver behind the NEO and the NEL cannot be doubted as the second reading speeches to the amendments in 2005 and 2007 attest.

In the second reading speech in 2005, when the NEO was first introduced into the NEL, the Minister stated:

"Applying an objective of economic efficiency recognises that, in a general sense, the national electricity market should be competitive ..." (Hansard SA House of Assembly 9 February 2005, page 1452).

In the second reading speech introducing the 2007 amendments to the NEL in 2007 the Minister stated

"In summary, the Bill recognises that active participation by energy users and suppliers is important to the development of a more innovative and responsive energy market, achieving effective competition and maximising the benefits of market reform of the energy sector." (Hansard SA House of Assembly 27 September 2007 page 973)

The National Electricity Law clearly assumes that there will be competition between generators. This point is made strongly in both the second reading speeches in the changes to the NEL in 2005 and 2007.

This rule change merely ensures that competition between generators should always apply and if competition cannot be assured, then there is a limit imposed the perception and effect of competition.

Major Energy Users Generator market power in the NEM Response to AEMC Consultation Paper

Appendix 1

Comments on generator market power by Mr Ed Willett, ACCC Commissioner and AER Member

1. Energy regulator warns of generator market power

There are worrying signs of market power in the electricity market, Australian Energy Regulator board member and ACCC Commissioner, Ed Willett, said today.

"With customers already facing increased prices it is particularly concerning, that generators are pushing up wholesale prices by using their market power and further increasing the cost to consumers," he told the energy 21 conference in Melbourne.

"We have seen generators exercising market power to drive up prices in New South Wales, South Australia and Tasmania over the past couple of years," he said. "Price spikes have become a recurring summer event in South Australia. There is limited transmission capacity to import electricity from Victoria, allowing AGL to set prices in peak periods around the \$10,000/MWh cap."

Similar issues emerged in Tasmania this year, where Hydro Tasmania made sudden cuts in the output of its mini hydro generators, forcing the dispatch of higher priced generation in its portfolio.

Mr Willett said rising network costs were another factor.

"The AER is carefully assessing network investment, and has scaled back some proposals," he said. "Rising investment is being driven by the need to upgrade ageing assets, improve reliability performance and meet rising peak demand. To this end, it is important that customers see rising network investment lead to genuine market benefits."

Mr Willett said the network sector faced a number of challenges, including implementation of climate change policies

"For example, it will be important to manage network congestion issues with the connection of remote generation. More generally, greater reliance on wind will lead to greater variability in flows across the networks, posing challenges for reliability and power system security.

"Climate change policies are also spurring regulatory and technological innovation that will help consumers take a more active role in managing their energy consumption," Mr Willett said. "For example, the AER has introduced a demand management innovation allowance to encourage network businesses to explore more creative solutions to managing peak demand. Another response is the roll out of smart meters and—potentially—smart grids.

"These innovations should help consumers to efficiently manage their energy use. And consumers will increasingly use solar photovoltaic systems to be energy producers themselves.

"I am confident our existing energy market arrangements can deal with the challenges efficiently," Mr Willett said. "But the market is looking for certainty on climate change policies. Given the wholesale market is already suffering from market power problems, further delays in generation investment are likely to impose serious costs."

Source: http://www.aer.gov.au/content/index.phtml/itemId/730615

2. Extract of a presentation by Mr Ed Willett on 8 September 2009, Melbourne



energy 21C

State of the energy market

Introduction

Thank you for inviting me to speak at energy 21, and for the opportunity to offer some perspectives on the state of the energy sector—which is certainly undergoing dynamic change. While this session focuses on energy networks, it is difficult to talk about the networks in isolation. Energy networks are designed to transport energy to users and consumers—and the generation and consumption of energy impacts directly on network design.

Consequently, I propose to cover activity in wholesale energy markets as well as the networks. The link between the two is the end customer. Ultimately the performance of the whole industry is judged against efficient service delivery at efficient prices to energy users.

Price pressure

As you are aware, energy customers—both large and small—have raised concerns in recent months about rising energy prices. In May 2009 the NSW regulator IPART announced that retail electricity prices would rise

by around 20 per cent for small customers not on a market contract. About half the increase was due to higher network costs.

In the past year or so, network charges have become a major driver of rising energy prices. This is an interesting turnaround from a couple of years ago, when retail price pressure stemmed mainly from the wholesale market. In 2007, drought conditions in the eastern states caused significantly higher spot and forward prices for electricity and gas, which in turn flowed through to the retail market. Uncertainty about climate change policies was also leveraging forward prices higher.

Price pressure in the wholesale market has eased in the last 18 months or so. While spot electricity prices rose in Tasmania in 2008–09, they fell in other regions of the National Electricity Market.

It was interesting to note that the Australian Government's decision in May 2009 to delay implementation of the proposed Carbon Pollution Reduction Scheme to July 2011 led to an easing of forward prices over the period of the delay. This suggests the market had generally factored the scheme's introduction into forward prices. It will be interesting to see how the recent uncertainty about the scheme affects contract prices over the coming months. The bottom line here is that carbon policies are already impacting on the market, with the largest cost likely to be the negative impact on investment caused by uncertainty.

Market power in the National Electricity Market

An emerging concern is that over the past couple of years we have seen an increasing incidence of generators exercising market power in the electricity market. This is not an everyday event. Indeed, the market was designed to minimise the risk of market power through an interconnected grid that allows competition between generators as far flung as northern Queensland, Tasmania and South Australia. Significant investment in networks, including regional interconnectors, has made this possible. The national market— covering all but Western Australia and the Northern Territory—is now fully aligned around 70 per cent of the time. While network congestion and other factors lead to some market separation, it is not usually severe.

But there are circumstances where a generator is required to be dispatched within a particular region and can easily exercise market power. This is most evident at times of peak demand, and typically on days of extreme temperatures. The opportunities for market power are further enhanced if part of the power system—for example, an interconnector—is constrained. This scenario can result in an islanded market with high demand and tight supply.

In a relatively concentrated market, and given the "pure" nature of the

electricity market, this can lead to significant opportunities for price gouging.

I will refer to three examples over the past couple of years. The first was in June 2007, when a combination of drought, plant outages and cold weather led to a tight demand–supply balance in New South Wales. While there was no evidence of a breach of the market rules, Macquarie Generation took advantage of market conditions by bidding around 20 per cent of its capacity at above \$5000/MWh during the peak 5 pm to 7 pm period. It was typically offering the same capacity at less than \$500/MWh at other times of the day. This led to average June quarter prices in NSW hitting a NEM record of \$146/MWh.

More recently, concerns about opportunistic bidding have centred on two other regions of the NEM—South Australia and Tasmania.

Price spikes in South Australia have been a feature of the past two summers. A significant proportion of South Australia's electricity is sourced from Victoria via transmission interconnectors. The South Australian market was changed in December 2007 when Electranet reduced the maximum allowable flow on the largest interconnector by around 25 per cent. This limited the supply of low cost electricity from Victoria.

From January to March 2008—and again in early 2009—high seasonal demand and reduced interconnector flows allowed AGL to alter its bidding strategies for its Torrens Island power station—which accounts for 40 per cent of South Australia's generation capacity. One strategy was to bid around 900 MW of capacity at around the price cap if demand was high. South Australia can source around 2500 MW from other generators and the interconnector, but beyond this Torrens Island must be dispatched. AGL was often setting prices around the market price cap of \$10,000/MWh at these times.

In the March 2008 quarter South Australian electricity demand exceeded 2500MW in 230 trading intervals. Prices exceeded \$5000 in 51 of these intervals. This led to March quarter prices in South Australia hitting a new NEM record of \$243/MWh— topping the New South Wales peak I mentioned earlier.

The extent of price gouging activated the cumulative price threshold. This imposes administered pricing if the cumulative spot price over a week reaches \$150 000. Without the threshold—and the threat of its further activation—the number of extreme price events would almost certainly have been significantly greater.

So far in 2009, spot prices have exceeded \$5000/MWh on 27 occasions in South Australia. This has accounted for around 50 per cent of all high price events in the NEM this year. The bidding behaviour of AGL has been a contributing factor on at least several occasions. The events have

typically occurred on days of hot weather and/or reduced import capability on the interconnectors.

More recently, market bidding strategies have emerged as a concern in Tasmania. Since 1 June 2009, the Tasmanian spot price has exceeded \$5000/MWh on 13 occasions. None of the spikes were forecast. They occurred when Hydro Tasmania made sudden and repeated cuts in the output of its non-scheduled (mini hydro) generators—forcing the dispatch of higher priced generation in its portfolio. The strategy was so sustained it led to administered pricing being applied for four days in June—the first time ever for Tasmania.

These unpredictable price spikes affect customers that buy electricity directly from the market (such as large industrial customers), the retailer (Aurora Energy) and potential new entrants. Large energy users trying to engage in demand management have been frustrated by these events, which include sudden spikes at off-peak times.

Tasmania also experienced extreme prices for raise contingency frequency control services in early April. The Tasmanian regulator OTTER has given notice of its intention to declare the supply of these services, which would enable it to regulate prices. The AER supports this proposal—but it does need to be handled with care. Any solution should not be onerous on participants or add further complexity to the dispatch process.

In a competitive market, sustained above-competitive pricing will attract new entry to take advantage of opportunities for profit. But the response may be muted if high prices are more a reflection of an incumbent's ability to exercise market power and control outcomes in a way that damages potential competition.

It is important to note that offering capacity at above-competitive prices is not a breach of the Electricity Rules. In fact, the rules explicitly leave the regulation of anti-competitive conduct to the Trade Practices Act.

It is sometimes argued—mistakenly—that the rebidding rules provide a means for the AER to regulate the misuse of market power in the electricity market. In particular, the rules require that generators make all bids and rebids in 'good faith.' This is not the time or place to discuss the legal interpretation of the good faith provisions. It is apparent that generators may have any number of motives for changing their bids. In some instances it is fairly obvious a generator is finessing above-competitive pricing during periods of transitory market power.

However, the rebidding rules are not aimed at regulating the misuse of market power. Rather, they aim to achieve timely and accurate dissemination of information to promote efficient dispatch and spot price outcomes. In particular, the provisions aim to avoid last minute rebids when market conditions are unchanged, to allow other parties to respond efficiently. In this

sense, the rebidding rules are the mechanism the rules rely on to ensure transparent and efficient dispatch.

In May 2009, the AER published the results of a comprehensive investigation of AGL's rebidding behaviour in South Australia in February 2008, and found there was no breach of the rules. More recently, the AER has instituted proceedings in the Federal Court against Queensland generator Stanwell, alleging that Stanwell did not make several of its offers to generate electricity on 22 and 23 February 2008 in 'good faith.'

To sum up, the National Electricity Market is a well designed market that allows participants commercial freedom to choose their price risk exposure in spot and forward markets. Most of the time it also provides efficient price signals for new investment. But the market relies on genuine competition. It is not designed to cope with highly concentrated generation markets and sustained and substantial market power.

As mentioned, the rules leave regulation of anti-competitive conduct to the Trade Practices Act. The AER assists the ACCC to monitor conduct in the wholesale electricity and forward contract markets in the context of section 46 and will continue to do so. But questions remain as to how readily applicable these provisions may be to the type of market conduct issues we have recently seen in electricity. Section 46 focuses on long run outcomes and requires a test of purpose rather than impact. How relevant these thresholds are in a market with the unique real time characteristics of the NEM is uncertain.

Source:

http://www.aer.gov.au/content/item.phtml?itemId=730609&nodeId=6ed27686f97df599313b2f08f636f47b