Hydro Tasmania
The power of natural thinking

26 May 2011

Mr Richard Owens

Australian Energy Market Commission

PO Box A2449

Sydney South NSW 1235

Dear Richard,

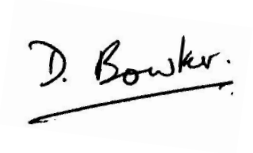
Re: Potential Generator Market Power in the NEM ERC0123

Hydro Tasmania would like to thank the Commission for the invitation to comment on the Potential Generator Market Power in the NEM rule change, which was issued on 14 April 2011.

Please find attached Hydro Tasmania's submission.

If you require any further information please contact me on (03) 6230 5775

Yours sincerely,



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Hydro Tasmania

The power of natural thinking

Hydro Tasmania Submission

ERC0123 - Potential Generator Market Power in the NEM

26 May 2011

Table of Contents

Summary

On 14 April 2011, the AEMC published a rule change request submitted by Major Energy Users Inc. (MEU). Fundamental to the proposed rule change is the assertion by MEU that there is a "generator market power" problem.

The AEMC has released a Consultation Paper which outlines its assessment process for this proposed rule change. As an initial step, the AEMC has identified the crucial question of what is "market power" in the context of the NEM.

This submission by Hydro Tasmania addresses this threshold issue.

The MEU proposal is based on an assumption there is a market power problem. However, the MEU definition of market power (see Box 1 in this submission) departs in some vital ways from the legal / economic concept of market power recognised in Australia (see Box 2A and 2B in this submission).

Importantly, the MEU definition omits some important complexity in this legal / economic concept (illustrated in the two case studies included in Appendix A to this submission).

It is a feature of deregulated electricity markets worldwide that customers will try to get supply *today* at the lowest possible 'fire sale' price, effectively short run marginal cost (SRMC) – and let someone else *tomorrow* worry about how to make this sustainable.

This tends to happen because of the unique transparency of production cost data in deregulated electricity markets and the use of dispatch mechanisms designed around SRMC. If one can see what the price would be if all generation were dispatched, in merit order, at SRMC – then why wouldn't a customer want this price.

However, this puts today's interests above tomorrow's interests – because no supplier can stay in business supplying at SRMC. So this approach will mean no investment in long term supply and jeopardises security and reliability of supply.

The National Electricity Objective (NEO) is intended to stop that happening. It picks up checks and balances that go back to the market power definition used in law / economics.

Drawing on the guidance provided by the Australian Competition Tribunal as to what is in the long term interests of consumers, the NEO could only justify intervention if average annual spot prices persistently exceeded the long run marginal cost (LRMC) of supply beyond the time frame needed to allow for market responses including new entry.

Average annual prices in the NEM reveal no evidence of such a situation. Proposals like the MEU proposal are therefore not warranted. There is no prima facie reason to be considering a proposal such as this.

However, if notwithstanding the lack of any *prima facie* reason, there is to be an examination of generator market power, then this submission draws out some of the complexities that have been edited out of the MEU approach. Any such examination would need to take into account all these complexities and it is very hard to do this with reliability and accuracy outside a court setting.

The MEU proposal is fundamentally misconceived and not in the long term interests of electricity consumers. It disregards the National Electricity Objective.

1. The Proposed Rule Change

On 14 April 2011, the AEMC published a rule change request submitted by Major Energy Users Inc. (MEU).

Fundamental to the proposed rule change is the assertion by MEU that there is a "generator market power" problem in the NEM, manifested through *"strategic bidding to spike prices opportunistically to maximize revenue"*.

It is claimed by the MEU that, as a consequence of such behaviour, *"prices for electricity have trended well beyond the cost of production"*.

The stated purpose of the proposed rule change is thus to prevent or constrain the exercise of "generator market power" by imposing restrictions on the dispatch offers that can be submitted by generators declared by the AER to be "dominant".

The proposed rule change would require the AER to assess, for each NEM region and on an annual basis, which generators have "market power" and declare those generators to be "dominant".

The MEU describes the concepts of "generator market power" and "dominance" for the purposes of this rule change at page 32 of the proposal as follows:

Box 1: MEU definition of generator market power

"Generator market power" means an ability of a generator to manipulate the spot price at a regional demand less than the maximum regional demand, by either physical or economic withholding of its capacity.

"Dominant generator" denotes a generator (or generators) which has (or have) the ability to profitably manipulate prices in the spot market for electricity at regional demand levels below the peak demand observed in that region. The process by

which a dominant generator would be identified is that if it can be demonstrated that the maximum regional demand at any time cannot be met without dispatch of that generator, then that generator is a "dominant generator".

In the footnote to the definition of "dominant generator", the MEU explains further that: *"In electricity markets, market manipulation by base load and mid merit generation has been observed to drive up spot prices many times beyond Long Run Marginal Cost of such generation and this has resulted in a pricing outcome that does not reflect competition. Such actions have been observed to be sustained, for example in the summer months of 2008, 2009 and 2010 in South Australia."*

In the footnote to the definition of "generator market power", the MEU states that its approach has a high degree of consistency with the approach taken by the AER in its Proposed Regulatory Test Application Guidelines July 2007 that: *"A Market Participant has a degree of market power in a given dispatch interval if it can, by varying its bid or offer, alter the pricing, dispatch and flow outcomes in the market (including possibly inducing 'clamping') in that dispatch interval in a manner that is profitable for that firm."*

Under the proposed rule change, when regional demand exceeds the level at which a generator has been declared to be "dominant", the generator would then be required offer all of its available capacity for dispatch at a price that does not exceed the administered price cap of $300/MWh.

The AEMC has released a Consultation Paper which outlines its assessment process involving 3 steps. The first step involves inquiring into the concept of generator market power in the context of the NEM. The second step will involve investigation as to whether there is evidence of the exercise of generator market power (as defined in step 1) in the NEM and if the AEMC concludes that there is such evidence, then potential solutions will be assessed in step 3.

For step 1, the AEMC has identified the crucial question of what is "market power" in the context of the NEM. To this, Hydro Tasmania would add the question of how complex it is to assess "market power" in the context of the NEM, whether the focus should be just on generation and the need for a reality check in the MEU's assumption that the AER is capable of making this assessment in respect of all NEM generators on an annual basis.

This submission primarily addresses those threshold matters.

Hydro Tasmania has two key points to make in this regard:

1. There are material differences between the way the MEU views "market power" and the concept recognised in law and economics. The MEU concept loses some of the vital checks and balances in the legal / economic concept.

2. The Australian courts are best placed to make an objective assessment of market power. The case law shows that this is a complex task and not something that can be inferred from observable price outcomes or theoretical models.

These points are explained in this submission, and supported by two case studies in Appendix A: the analysis of Loy Yang Power's bidding in the summer of 2000/01 by the Federal Court in the 2003 case *AGL v ACCC*; and the UK Competition Commission's decision in 2000 regarding the Market Abuse Licence Condition sought by the energy regulator Ofgem.

2. What is Market Power under Australian Law

The starting point for consideration of the concept of market power under Australian law is the 1989 High Court decision in *Qld Wire v BHP.*

The High Court has subsequently had a number of opportunities to consider *Qld Wire v BHP* and provide further guidance through major decisions such as *Melway v Robert Hicks* [2001], *Boral v ACCC* [2003], *Rural Press v ACCC* [2003] and *NT Power Generation v Power & Water Authority* [2004], with further analysis of these decisions by the Full Federal Court in *ACCC v Universal Music* [2003], *ACCC v Safeway* [2003] and *ACCC v Baxter Healthcare* [2008].

In *Qld Wire v BHP* the High Court defined market power as follows:

Box 2A: Australian courts definition of market power

"Market power can be defined as the ability of a firm to raise prices above the supply cost without rivals taking away customers in due time, supply cost being the minimum cost an efficient firm would incur in producing the product…" [1]

Generally, establishing market power will involve detailed competition analysis including identification of the nature and extent of constraints that exist, the dynamic characteristics of the market and the height of barriers to entry and expansion.

The case law makes it very clear that the essence of market power is the absence of constraint. A market power inquiry must therefore ascertain the degree of constraint on a firm, recognising that: *"...the presence or absence of barriers to entry into a market will ordinarily be vital"*[2] and that it *"... is only when for some reason it*

[1] Qld Wire v BHP [1989] HCA 6 at paragraph 17

[2] Boral v ACCC [2003] HCA 5 paragraph 137.

is not rational or possible for new entrants to participate in the market that a firm can have market power"[3].

Further, it is clear that, from a temporal perspective:

- It serves no useful purpose to focus on the short run transitory situation; it is the long run substitution possibilities that properly define the market: see Re Tooth & Co Ltd and Toohey's Ltd (1979)[4];

- Competition is a dynamic process rather than a situation – see Re QCMA (1976)[5] – and must be assessed over time, not by a snapshot view at a particular time: see AGL v ACCC [2003][6] and ACCC v Universal Music Australia [2001][7];

- Little if any weight will be given to short term effects or advantages readily corrected by market processes: see Universal Music Australia v ACCC [2003][8]; and

- To have market power implies having the ability to maintain raised prices or exclude competition for a significant period: NT Power Generation v Power & Water Authority [2002][9]

Finkelstein J brought these themes together succinctly in the *NT Power* case:

Box 2B: Australian courts definition of market power

"A firm must have market power for some appreciable period before it has

[3] Qld Wire v BHP [1989] HCA 6 at paragraph 20

[4] Re Tooth & Co Ltd and Toohey's Ltd (1979) 39 FLR 1

[5] Re QCMA (1976) 25 FLR 169

[6] AGL v ACCC (No 3) [2003] FCA 1525 paragraphs 349-350

[7] ACCC v Universal Music Australia [2001] FCA 1800 paragraph 351

[8] Universal Music Australia v ACCC [2003] FCAFC 193 paragraph 242

[9] NT Power Generation v PAWA [2002] FCAFC 302 paragraph 153

significance for antitrust purposes. Most firms could raise prices above competitive levels for a day, or even for a week, but competition would soon bring them back into line. Thus to have market power implies having the ability to maintain raised prices or exclude competition for a significant period. But that period need not necessarily be measured according to the calendar. The reference is to operational time, such as the time within which a potential competitor who is waiting in the wings could acquire the facilities it needed to enter into the market to take advantage of the possibility of making a profit…"[10].

[10] NT Power Generation v PAWA [2002] FCAFC 302 at paragraph 153

3. Applying the concept of Market Power to the NEM

Hydro Tasmania believes that applying the legal / economic concept of market power, the following general observations can be made about the complex task of identifying genuine market power in the NEM:

market definition – product dimension

- It cannot be assumed that the NEM "spot market" is the appropriate product dimension of the market.

- Generators and retailers make choices as between spot exposure and hedge exposure, as part of risk management in the NEM. French J in *AGL v ACCC* noted that: *"Having regard to the nature of the NEM and the evidence of witnesses…, I am satisfied that risk management is a central feature of the operation of both wholesalers and retailers in the electrical supply industry in the NEM. … It necessarily impacts upon competitive activity in the NEM and is an important feature of any market to be considered for the purposes of competition law."*[11]

- Further, generators make choices as to whether to use their production for different revenue purposes including to receive energy spot revenue, to back financial contracts, to provide FCAS, or to give rise to large-scale generation certificates (LGCs). This raises issues of supply-side substitutability as between these different "products".

market definition – geographic dimension

- It cannot be assumed that the NEM regional boundaries define the geographic dimension of the market. This ignores the effect of interconnection.

[11] AGL v ACCC (No 3) [2003] FCA 1525 paragraph 179

market definition – functional dimension

- In terms of the functional dimension of the market, the extent of vertical integration in the NEM ("gentailers") may mean it is appropriate to include both generation and retail activities within the market definition.[12]

market definition – temporal dimension

- The temporal dimension of the market cannot be limited to a dispatch interval. The relevant time frame needs to allow for market responses. Market responses may include, at a minimum, the adjustment of contract positions or the announcement of credible new entry (actual construction is not required in order to change market behaviour).

barriers to entry and expansion

- There needs to be a proper assessment of barriers to entry and expansion. In *AGL v ACCC*, French J made the following observations about generators driving up spot prices (emphasis in bold added):

  "I am prepared to accept that there are periods of high demand where a generator may opportunistically bid to increase the spot price. I do not accept that such inter-temporal market power reflects more than an intermittent phenomenon ***nor does it reflect a long run phenomenon having regard to the possibilities of new entry through additional generation capacity and the upgrade of interconnections between regions****. It does not amount to an ongoing ability to price without constraint from competition****."*** [13]

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[12] Re QIW v Davids Holdings [1993] FCA 204 at paragraph 207: *"The authorities reveal that while in some circumstances it will be appropriate to restrict the relevant market to one functional level (e.g. the wholesale market or the retail market), in other situations the relevant market may extend over one or more of such functional levels."*

[13] AGL v ACCC (No 3) [2003] FCA 1525 at paragraph 493

countervailing power

- Countervailing power needs to be considered. The threat of bypass is at the heart of countervailing power and this necessitates an analysis of the extent to which NEM retailers have pursued vertical integration strategies. Again, there are some pertinent comments in *AGL v ACCC* on this issue (emphasis added in bold):

  "204 A further document relevant to AGL's consideration of vertical integration options was dated 22 January 2003 and entitled 'Winning Energy Company Initiative – Vertical Integration/Power Generation Strategy Review'....

  207.... The document stated that AGL's main retail competitors were already well advanced in implementing vertical integration strategies. The New South Wales and Queensland governments had also adopted vertical integration arrangements for their Government Owned Corporations (GOC) supplying domestic customers. Under the heading 'Background and Key Study Objectives', the document observed that under a vertical integration strategy, AGL would obtain control of dispatch of generation assets. Managed in an integrated fashion with its retail portfolio these should yield benefits beyond those available by arms length arrangements such as hedging. The capability had already been demonstrated by the use of AGL's Somerton and Hallett plants to set market price and produce effects on its power portfolio purchase price.

  208 If a vertical integration strategy were demonstrated to have significant advantages to AGL the subsidiary issue of whether it should be implemented by asset ownership or contractual arrangements which would provide 'virtual ownership' had to be addressed....

  211 The paper referred to contractual power station arrangements. .... If AGL controlled, via ownership or contracting, particularly fast response, flexible

intermediate and peaking generation it could ensure that it was bid in at prices to cover its position precisely for each half hour. It could also use its control of generation to influence spot prices at other times. The outcome would be an ability to have some influence in forward contract prices as well as spot prices. Dispatch hedging therefore had a strategic advantage as well as saving on under or over-hedging.

212 With respect to future trends it was pointed out that Origin, TXU and AGL had all embarked on vertical integration exercises. In all cases the plant developed or acquired had been flexible peak or intermediate generation able to influence pool price at times of highest market prices. These retailers were described as 'the dominant parties' in the competitive South Australian and Victorian markets. Retailers shielded from competition in New South Wales and Queensland had not adopted that approach. It was likely that the parties that emerged as successful in New South Wales and Queensland would also be integrated when government ownership was removed and over-capacity absorbed. Market cycle risk analysis showed that a pure retailer was significantly exposed compared to an integrated player. As a result, it was likely that, over time, remaining retailers would be vertically integrated, owning peak and intermediate generation. The corollary was that coal-fired base load plant would become dominated by non-retail companies willing to act as long-term price takers. This would probably include traditional generator companies but was also likely to attract long term investors. ***In that type of market most energy would be produced and sold by generators but integrated retailers would predominantly set price.***

214 This document, in my opinion, provides a useful indicator of the informed opinions of people operating within AGL as a major market participant in the NEM. Like AGL South Australia's submission to NECA on the rebidding rules, referred to later in these reasons, they are views expressed outside the framework of any adversarial debate with the ACCC which, at the time of production of the document, had not emerged. I regard it as evidence of a natural

tendency on the part of major retailers in the NEM, which I find exists, to undertake some degree of vertical integration at the level of peaking or intermediate plant..."

presence / absence of constraints

- All constraints on generators need to be identified.

- Any assessment of generator market power cannot be undertaken on the basis of installed capacity, as this ignores matters relevant to production output and profitability such as:
    - availability (including the availability of water for hydro-electric generators);
    - the impact of contract positions (which expose generators to financial consequences for spot price outcomes); and
    - co-optimisation and ancillary services (which can impose significant alternative costs on generators or limit their availability).

- It is noted that, in striking down the MALC, the UK Competition Commission took into account the specific circumstances of the two generators who had challenged this licence condition – in particular the fact that: *"A large proportion of AES's output was sold on long-term contract at a fixed price, diminishing AES's incentive to manipulate market prices. British Energy, as a predominantly nuclear generator (with one large coal-fired plant), had relatively inflexible plant compared to its competitors, diminishing its ability to withdraw capacity."* [14]

- In *AGL v ACCC,* French J came to the following conclusion (emphasis in bold added): *"There is no doubt that at certain intervals of supply/demand imbalance there are opportunities for the kind of game playing in which LYP engaged in the summer of 2000/2001 which can lead to substantial price increases for short*

[14] at paragraph 4.12

periods. As already discussed in the context of that summer strategy ***it does not follow that this reflects an ability to raise prices profitably on a sustained basis****."* [15]

observable indicators

- Conclusions about generator market power cannot be drawn from short run spot price outcomes. To the extent that spot prices may act as a signpost for further inquiry about potential market power, it would need to be sustained spot prices above new entrant long run marginal cost (LRMC). (Conversely, sustained spot prices below short run marginal cost (SRMC) may act as a signpost for further inquiry about buyer market power.)

- The New Zealand Ministry of Economic Development, responding to the New Zealand Commerce Commission's 2009 investigation into New Zealand electricity markets, suggested that a useful benchmark when inquiring as to whether there is sustained or long run market power would be to compare average wholesale spot prices with the cost of new capacity or LRMC.

- A similar LRMC "health check" was used in *AGL v ACCC* as discussed in Appendix A.

- Further, in the 2005-2007 European Commission energy sector inquiry, a model of efficient new entrant cost (based on CCGT) was used in a similar indicative fashion to assess how wholesale electricity prices in the six countries studied contributed to fixed costs, in particular whether they would be sufficient to sustain investment in efficient new plant[16].

[15] AGL v ACCC (No 3) [2003] FCA 1525 at paragraph 520

[16] See the February 2007 report for DG Competition by London Economics at: http://ec.europa.eu/competition/sectors/energy/inquiry/electricity_final_part4.pdf

- Finally in its determination authorising the rebidding rule changes in December 2002, the ACCC commented in a footnote on page 31 that: *"The competitive level in the electricity market is not necessarily SRMC, as prices that only cover marginal costs could lead to under investment because of limited return to cover fixed costs especially where economies of scale exist. SRMC pricing is unlikely to be sustainable or desirable in this context."*[17]

[17] ACCC, *Amendments to the National Electricity Code: Changes to bidding and rebidding rules*, Final Determination, 4 December 2002 at page 31.

4. The National Electricity Objective

In the Consultation Paper, the AEMC has explained that in assessing the proposed rule change it must consider whether the proposed rule will, or is likely to, contribute to the achievement of the National Electricity Objective, as set out in section 7 of the National Electricity Law.

The National Electricity Objective states that:

"The objective of this Law is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to –
(a) price, quality, safety, reliability and security of supply of electricity; and
(b) the reliability, safety and security of the national electricity system."

The December 2004 Information Paper by the Ministerial Council on Energy Standing Committee of Officials noted the intentional policy emphasis on promoting the *long term interests of consumers* in this objective and the second reading speech in February 2005 elaborated on this.

"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 interests of consumers of electricity requires the economic welfare of consumers, over the long term, to be maximised. ..."

The Australian Competition Tribunal has provided some guidance on the concept of *the long term interests of consumers* given a similarly focused objective in Part XIC of the Competition and Consumer Act.

In the short term, today's consumers will always want supply at the cheapest possible price, even if this is not a sustainable price (and even if tomorrow's consumers will pay the price for lack of investment). The long term interests of consumers requires prices to be sufficient to sustain investment to enable on-going least cost supply. This is a complex balance.

The Tribunal in 2007, in the context of discussing an access price for telecommunications services[18], explained the point at which there is alignment between efficient investment on the supply side and efficient use and downstream investment on the demand side, in the long term interests of consumers. This point is where pricing recovers the costs of efficient investment, inclusive of a normal return.

It is recognised that this mimics the notional price expected to prevail in a competitive market and meets the legitimate interests of both seller and buyer as neither is entitled to expect a price higher or lower than the competitive level[19].

The Tribunal in 2007 explained this "goldilocks" principle of achieving a price that, in terms of investment signals, is not too high, not too low, but just right. Although this talks of telecommunications infrastructure, the principles apply to electricity generation and it is helpful in the present context to reflect on exactly what the Tribunal said:

"159 In general terms, efficient investment by an access provider in the infrastructure necessary to supply telecommunications services will be achieved when the firm is just able to recover the costs of such investment (inclusive of a normal return on its investment). If the firm is unable to recover the costs of efficient investment, it will not undertake such investment. If the firm is able to recover more than the costs of

[18] Telstra [2007] ACompT 3

[19] see also Telstra [2010] ACompT 1

its investment, it will have an incentive to expand investment beyond efficient levels. An access charge should be one that just allows an access provider to recover the costs of efficient investment in the infrastructure necessary to provide a declared service. ...

160 It is also necessary to consider relevant principles in relation to the efficient use of, and investment in, infrastructure by access seekers..... Potential access seekers are often said to face "build or buy" choices.

162 An access seeker will have an incentive to make efficient "build or buy" choices if access charges are set to recover the efficient costs of investing in the infrastructure necessary to provide the declared service. If access charges are set at levels below those necessary to recover efficient costs, a potential access seeker may be encouraged to acquire access to a declared service when it would be more efficient for it to build its own infrastructure and bypass access to the declared service. This may also encourage inefficient investment in other infrastructure ... by access seekers.

163 Conversely, if an access charge is set at a level in excess of that needed to recover the efficient costs of investment in infrastructure necessary to provide the declared service, the access seeker may be encouraged to invest in its own infrastructure in circumstances where it may be more efficient to seek access to an access provider's infrastructure. Alternatively, inefficiently high access charges for a declared service may lead an access seeker to choose different wholesale products that involve it making investments other than those which it might make if access charges were set at efficient cost-recovery levels. ...

164 Overall, therefore, efficient investment by both access providers and access seekers would be expected to be encouraged in circumstances where access charges were set to ensure recovery of the efficient costs of investment (inclusive of a normal

return on investment) by the access provider in the infrastructure necessary to provide the declared service."[20]

Thus drawing on the guidance provided by the Tribunal, a rule change based on a notion of short run market power so as to achieve price outcomes below that needed to recover the efficient costs of investment in generation (inclusive of a normal return) will not be in the long term interests of electricity consumers and will not contribute to the achievement of the National Electricity Objective.

[20] Telstra [2007] ACompT 3

5. Concluding comments

A working definition of market power must encompass more than just an ability to raise price at a particular point in time. At least 3 further highly complex elements present in law / economics must be considered:

a) the ability must be to raise price above the competitive level, being long run efficient supply cost;

b) there must be a temporal element of persistence; an ability to sustain prices above the competitive level beyond the time frame needed to allow for market responses including new entry; and

c) the ability must be to profitably raise prices on such a sustained basis.

This complexity can be seen in the two case studies in Appendix A.

The first case study deals with the analysis of Loy Yang Power's bidding in the summer of 2000/01 by the Federal Court in the 2003 case *AGL v ACCC*. At the time, this behaviour was seen by many as being an observable case of generator market power. The 2003 court case before French J of the Federal Court, however, revealed a more complex reality and French J was able to conclude that Loy Yang Power's strategy to spike prices in the summer of 2000/01 was not indicative of the existence or exercise of generator market power.

In reaching this conclusion, French J commented on the limitations of theoretical models showing an ability to raise spot prices (given that the assertion by the ACCC that Loy Yang Power had market power relied heavily on work undertaken by Professor Frank Wolak that modelled the ability of Victorian generators to influence spot price outcomes). The problem with such models is that they do not model potential supply side responses, a point acknowledged by Professor Wolak in the witness box.

The second case study deals with the UK Competition Commission's decision in 2000 regarding the Market Abuse Licence Condition[21] sought by the energy regulator Ofgem to deal with the concept of "close to real time" market power (a concept very similar to the approach taken by the MEU).

The Competition Commission's decision contains some helpful discussion as to how Ofgem's definition of generator market power (see Box 3 in Appendix A) differs from the traditional approach under competition law / economics (see Box 4 in Appendix A). Its major concern was that the MALC would risk deterring normal competitive behaviour because Ofgem's definition edited out key elements from the traditional legal / economic approach. Some of the things edited out in the MALC definition included the ability to raise prices consistently; the ability to raise prices profitably; and the ability to raise prices above competitive levels.

The MEU definition does not encompass any of the complexity addressed in these case studies and does not take into account the constraints that exist on the supply side and the ability to respond on the demand side.

Learning from history, the proposed rule change risks inhibiting the type of market response that French J in *AGL v ACCC* found had occurred in response to the summer of 2000/01. The UK Competition Commission's concerns with respect to the MALC deterring normal competitive behaviour are therefore highly relevant in the present context.

The MEU proposal is fundamentally misconceived and not in the long-term interests of electricity consumers. It disregards the National Electricity Objective.

[21] The comments and concerns expressed by the UK Competition Commission about this concept of market power remain valid notwithstanding the recent introduction of licence conditions to address transmission constrained situations pursuant to the UK Energy Act 2010.

Appendix A: Two Case Studies on Complexity

The following case studies are provided to illustrate the complexity of assessing generator market power.

Case Study 1: The summer of 2000/01 (AGL)

The 2003 case *AGL v ACCC* contains an analysis of Loy Yang Power's bidding behaviour in the summer of 2000/2001. At the time, this was seen by many as being an observable case of generator market power and this led to proposals to change the NEM rules (resulting in the "good faith" rebidding rule changes authorised by the ACCC in 2002). The 2003 court case before French J of the Federal Court, however, revealed a more complex reality as to what drove Loy Yang Power's behaviour in 2000/01 and the proper characterisation of this.

"432 The market behaviour of Loy Yang Power in the summer of 2000/2001 was relied upon by the ACCC in support of its contention that the Loy Yang Partners had market power and that they had exercised that market power to raise spot prices in that summer. There is no doubt that Loy Yang's bidding and rebidding significantly increased spot prices in the market at that time. But while the ACCC pointed to this as an indicator of market power, AGL characterised Loy Yang's behaviour in 2000/2001 as a high risk strategy under pressure imposed by its loan covenants and successful due to abnormally hot weather and other fortuitous events."[22]

Were the events of summer 2000/01 an example of generator market power?

French J explained the background to the events of that summer and the steps Loy Yang Power took to deal with its precarious financial position at that time, including the formation of a task force:

"436 The formation of the task force led to the formulation of the LYPM 2001 Pool

[22] AGL v ACCC (No 3) [2003] FCA 1525

and Contracting Strategy, also known as the 2001 Summer Strategy. Its essential elements as described by Mr Thompson were:
1. LYPM would ensure it had a high degree of exposure to the pool for the period between January and March 2001; and
2. LYPM would, during January and March 2001, bid and re-bid in ways designed to take advantage of any tight demand/supply periods that might arise over the summer months.

The company decided to implement the strategy. The relevant Board paper noted there was a high degree of certainty that a 'business as usual' scenario would lead to business failure, not just in terms of a technical default but a real default under the debt agreement."[23]

Having examined the extensive evidence as to the events as they unfolded and with the wisdom of hindsight, French J was able to conclude that Loy Yang Power's strategy to spike prices in the summer of 2000/01 was not indicative of the existence or exercise of generator market power:

"456 In my opinion the market tactics here being discussed assume the character of something that looks less like the exercise of market power than moderately well informed betting on the market. The latter characterisation is reflected in the observation of ACCC expert, Professor Frank Wolak of Stanford University, who described a competitive electricity market as '... an extremely complicated non-cooperative game with a very high-dimensional strategy space' – Wolak, 'An Empirical Analysis of the Impact of Hedge Contracts on Bidding Behaviour in a Competitive Electricity Market' (2000) 14 International Economic Journal 1-39 at p 4. There is no doubt that LYPM did affect spot prices and forward contract prices by reason of its bidding strategy in summer 2000/2001. I am not satisfied that it has adopted that as a general strategy subsequently or that such a strategy could be relied upon, at the level of confidence necessary for commercial decision-making, to

[23] AGL v ACCC (No 3) [2003] FCA 1525

work in conditions other than those which fortuitously came together in that summer. The risk LYPM took was the lesser of two evils, the other being default under its loan covenants. No doubt, as Victoria's largest generator, it is in a position opportunistically to respond to supply/demand imbalance in very short time intervals and if all the variables are in the right place, to affect both spot and forward contract prices. The question is whether the existence of such opportunities and the fact that it responds to them from time to time reflects the existence of market power. There is here a distinction to be drawn between what was referred to as 'transient market power' and 'persistent but intermittent' market power. It may also be that that distinction is able to be reflected in the concept of temporal sub-markets and what is elsewhere described as the inter-temporal variation of market power."[24]

However, as discussed by French J, this was not how Loy Yang Power's behaviour was perceived at the time. The high prices experienced over the summer of 2000/01 led to some extreme rule changes proposals designed to address generator market power and eventually the introduction of the more moderate "good faith" rebidding rule change authorised by the ACCC in December 2002[25].

French J referred to this ACCC authorisation determination and the recognition in this by the ACCC that the market had responded to the high priced summer of 2000/01 – indeed recognition that this was evidence of the market at work (emphasis in bold added):

"466 The ACCC referred to evidence that the market was already addressing constraints including investment in base load generation in Queensland and peaking generation in South Australia and Victoria. Proposals to upgrade and build new interconnectors to take advantage of price differences between regions were also referred to. It was said:

'This is the market at work.'

The further observation was made that short term price spikes are common to

[24] AGL v ACCC (No 3) [2003] FCA 1525

[25] ACCC, Amendments to the National Electricity Code: Changes to bidding and rebidding rules, Final Determination, 4 December 2002

deregulated electricity markets and that ***focusing on price outcomes over a short period of time was irresponsible as it could lead to biased conclusions****. The high priced period of 2001 that raised initial concerns were seen by the ACCC as '... largely part of the cycle of development for the NEM'. Then it was said:*

> *'While recent bidding behaviour lends support to the view that changes should be made to prevent contrived price spikes, the Commission is wary of short term solutions that could impact negatively on the long term development of the market. Having said this, the Commission believes that there are opportunities for the NEM framework to be refined if sufficient consultation is conducted to target specific anti-competitive behaviour.'*

467 The ACCC also observed in its determination that two of the three consultants' reports to it had concluded that market power in the NEM was not a systemic problem. In relation to the spot market there was little to indicate conclusively that there was significant abuse of market power occurring at that time. ***There was no evidence that contract prices were remaining above new entrant levels without enticing new entrants, as might occur if new entrants were being deterred by the threat of predatory pricing. Contract prices appeared to be at or below new entrant levels.*** *There was, however, some evidence of the average spot market price exceeding new entrant prices which would be of concern* ***if the condition persisted over a period long enough to allow new entrants to enter, for example two years or longer****."*

All this led French J to summarise the lessons from summer 2000/01 as follows:

"469 In my opinion, the events of the summer of 2000 and 2001 and the perspectives on those events offered by the AGL submission and the ACCC determination in the context of the rebidding rule change support the following broad conclusions:
1. The rebidding rules as they were prior to the change in 2003 provided some opportunities for manipulation of the bidding process to affect spot prices, particularly in times of high demand.

2. The opportunities afforded to generators by the previous bidding rules either conferred market power or enhanced existing market power for brief intervals when bidding strategies could affect spot prices and forward hedge contract prices.

3. The change to the bidding rules has reduced the opportunity for manipulative bidding and has increased the risk of punitive responses by NECA against attempts to lodge bids other than in good faith or rebid other than for legitimate reasons.

4. To the extent that the bidding regime does permit price spiking and economic withholding of capacity at times of high demand, it provides a mechanism for price signals upon which existing participants can act to enhance capacity or new participants can enter to relieve the demand/supply imbalance.

5. The market did respond in a competitive way to the price increases of the summer of 2000/2001 by the announcement of new generator capacity.

6. The particular conjugation of pressures from financiers and fortuitous events upon which Loy Yang Power relied in the summer of 2000/2001 does not allow an inference to be drawn from the successful application of the summer bidding strategy that it had then and continues to enjoy now, market power in terms of an ongoing ability to price consistently above its marginal costs of production. So to conclude is not to conclude that Loy Yang lacks market power. It is simply that the inference of market power is not supported by the events of the summer of 2000/2001."[26]

One of Hydro Tasmania's concerns is that the MEU proposal indicates the lessons learnt from the summer of 2000/01 have been forgotten.

[26] AGL v ACCC (No 3) [2003] FCA 1525

What is the relevance of theoretical models showing an ability to raise spot prices – can they prove market power?

The ACCC's assertion in *AGL v ACCC* that Loy Yang Power had market power relied heavily on work undertaken by Professor Frank Wolak that modelled the ability of Victorian generators to influence spot price outcomes, assuming all else being equal. The case theory outlined by the ACCC to the court relied on the following findings:

"...The empirical results of Professor Wolak show that Loy Yang has the ability to influence the average spot price of electricity in Victoria and the NEM;

...The empirical results of Professor Wolak demonstrate that even a small reduction of Loy Yang's level of contracting of approximately 140MW will cause an increase the average Victorian spot price by 20% over the relevant period;"[27]

The issue is, of course, that unless there is a high degree of market power, all else is not equal. So a fundamental assumption behind the modelling actually assumed the very point it was presented as proving, as drawn out by French J:

"566 Professor Wolak's model did not take any account of the supply side response to a contraction in the demand for forward contracts. He said in cross-examination that there is a potential supply response and to him that would be the real issue. He said it was the fundamental issue:
'Q. And your model does not model the potential supply response?
A. There is no model that I'm aware of that does that.'
AGL contended that, because Professor Wolak's model leaves out of account the potential supply response to any unilateral change by LYP or any other generator, it is not capable of being used to test the likely outcome in the real world of the behaviour he prospectively attributes to LYP. I agree with that submission. It is not in

[27] AGL v ACCC (No 3) [2003] FCA 1525 at paragraph 311

the end a criticism of the model which seeks to present one aspect of behaviour by a market participant."

What significance to put on actual price spikes observed? Are they raising price above the competitive level?

French J considered evidence presented to the court that average spot prices in NEM had been persistently below the long run marginal cost (LRMC) of new generation plant (with some exceptions in the early days of jurisdictions joining the NEM):

"481 Dr Price observed that periodic price spikes should be considered in the context of average price. If such price spikes are associated with a sustained rise in average prices above the efficient long run marginal cost of the generation system, this might be cause for concern. There is no such price trend. The opposite has occurred. Since the commencement of the NEM there has been a significant fall in average prices. In this respect, the National Grid Management Council said of the role of prices in an NEM:

> *'Pool prices are intended to reflect the value of electricity that is traded at a particular point in time. If prices reflect the value of the product, then for an appropriate investment in generation, revenue from the pool will cover both its variable production costs and its fixed costs over the life of the investment. There is no guarantee however, that in a particular period, the revenue a generator receives from the pool will cover its costs. The lumpy nature of the capital and the variability of demand, mean that there will be some periods in which pool revenues more than cover total costs, and other periods when it does not.' – National Grid Management Council, Transition to a National Electricity Market, July 1993 p 11*

482 According to the pricing evidence, the NEM works efficiently. That is to say prices rise at times of high demand and fall when demand is low. In those NEM regions

where reserves are short, the price is relatively high. Where there is excess capacity, prices are relatively high and power flows from low priced to high priced regions.

483 By reference to NEMMCO half hourly price data for the 2002 calendar year at the Victorian Node, it appears that the overall average cost of generation is around $40/MWh as estimated by Dr Price. This figure is supported by Mr Ergas's estimate of long run marginal cost for the operation of the Loy Yang power station which is discussed below. Dr Price's analysis of the data indicates that the price at the Victorian Node during 2002 exceeded $40/MWh for only 13% of the year with the price being below average costs for the majority of the time. As a result there was an average spot price over the 2002 calendar year of $35.44/MWh. On this basis he argued that generators do not have the ability to sustain average spot prices above average costs. He also observed that Loy Yang Power was, for the most part, a price taker in the sense that it did not set the Victorian spot price for a significant percentage of the year. The actual figures were referred to in a confidential part of his report."[28]

The conclusion reached by French J was as follows:

"492 The LRMC estimates derived by Mr Ergas appear to fall close to or perhaps on the upper bounds of a debatable range. They are consistent with the proposition that LYP does not have market power defined by reference to pricing relative to LRMC. His evidence taken with that of Dr Price and the market response to the Summer Bidding Strategy of 2000/2001, leads me to conclude that LYP does not have market power in the sense of an ability to secure price increases free of competitive response. I might add that success at 'gaming' in the market during limited periods of high demand does not reflect market power even if it results in a high forward contract price."[29]

Case Study 2: The UK Market Abuse Licence Condition

[28] AGL v ACCC (No 3) [2003] FCA 1525

[29] AGL v ACCC (No 3) [2003] FCA 1525

In December 2000, the UK Competition Commission struck down a licence condition (the Market Abuse Licence Condition or MALC) which the UK electricity regulator Ofgem had sought to impose on generators to deal with the concept of "close to real time" market power[30]. This concept was very similar to the approach to generator market power taken by the MEU.

The Competition Commission's decision contains some helpful discussion as to how Ofgem's definition of generator market power differs from the traditional approach under competition law / economics.

Ofgem argued that: *"the special characteristics of electricity markets made them especially vulnerable to the exercise of market power close to real time, not only by large firms and regardless of the trading arrangements"* (paragraph 8.143) and that a lower threshold than that applied under competition law was needed *"to meet the particular problems that arose in the electricity market"* (paragraph 2.199).

A short summary of the background to the MALC is contained in pages 30-49 of the 2008 review of past Competition Commission decisions[31]:

"4.7 In response to a further pool price investigation in 1999, Ofgem decided it was necessary to introduce a licence modification, termed the Market Abuse Licence Condition, on seven generators who met the criterion of at least a 5 per cent share both of output and price-setting in the Pool. This condition would oblige the generators not to engage in abuse of market power. Ofgem could, in extremis, revoke the licence of a generator in breach. ...

4.8 The MALC defined substantial market power as 'the ability to bring about,

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[30] UK Competition Commission, *AES and British Energy: A report on references made under section 12 of the Electricity Act 1989*, December 2000

[31] located at http://www.competition-commission.org.uk/our_role/analysis/evaluation_report.pdf

independently of any changes in market demand or cost conditions, a substantial change in wholesale electricity prices'. Abuse was not directly defined in the MALC, but accompanying guidelines provided examples, including acting to prejudice the efficient and economical balancing of the transmission system, withholding capacity or generation without good cause and setting prices that differ unduly between times when demand and cost conditions were similar."

Was the MALC definition of generator market power actually market power – or could it mistake normal competitive behaviour for abuse?

The Competition Commission made the point that some of the conduct which Ofgem and the Director General of Electricity Supply (DGES) sought to define as an abuse of market power in reality represented *"manipulation of market rules, and the exercise of temporary opportunities to raise prices"* as distinct from *"conduct which stems from the underlying strength of a player's position in the market"* (at paragraph 2.198). Its major concern was that the MALC would risk deterring normal competitive behaviour (at paragraph 2.258):

"We consider, therefore, that the problem of uncertainty, both for generators and for other market participants, over the interpretation of a prohibition of substantial market power is substantive. .... Because of the difficulty of distinguishing between abusive and acceptable conduct, there is a risk that such a prohibition will deter normal competitive behaviour and thus inhibit the operation of the market. A dampening of price volatility, for example, could reduce the effectiveness of price signals and inhibit the development of more flexible responses from both the supply and demand sides."

In other word, the concern was that a regulatory approach such as the MALC may inhibit the type of market response that French J found had occurred in response to the summer of 2000/01 in *AGL v ACCC* discussed above.

One of Hydro Tasmania's concerns is that the MEU proposal is similar in concept and

intent to a reprisal of the MALC approach. The Competition Commission's concerns are therefore a sound warning for the current rule change proposal.

As mentioned above, the MALC defined generator market power as:

Box 2: MALC definition of generator market power

"the ability to bring about, independently of any changes in market demand or cost conditions, a substantial change in wholesale electricity prices"

This definition is easy for an electricity regulator to apply but two things stand out as missing from a legal / economic perspective – first, any reference back to the notion of raising prices above a competitive benchmark, and secondly the notion that this has to be profitable and persistent.

So it was no surprise that the Competition Commission adopted a working definition of market power that brought this complexity back in, defining generator market power as:

Box 3: UK Competition Commission definition of generator market power

"the ability of a generator, acting independently, to raise prices consistently and profitably above competitive levels"

The Competition Commission then went through an examination of the differences between this working definition and the MALC definition - see chapter 2 conclusions paragraphs 2.170 - 2.200 (p37-44), drawing on the guideline published by the UK Office of Fair Trading (OFT) on the assessment of market power for the purposes of investigating cases under the UK Competition Act.

"2.172. The guideline states that market power describes a situation where the

constraints which would usually ensure that an undertaking behaves in a competitive manner are not working effectively. For convenience, it usually refers to market power as 'the ability to raise prices consistently and profitably above competitive levels'. It explains that market power is not solely about raising prices, since an undertaking with such power might also be able to supply goods of a lower quality, or to restrict output. Nevertheless this definition is useful for our purposes since it is the raising of prices which has been the DGES's main concern in relation to the electricity generation sector in England and Wales.

2.174. We recognize that the OFT guideline has been drawn up in the context of the Competition Act and that other definitions of market power are possible. It appears to us, however, that the MALC represents an attempt by the DGES to apply to the electricity generation sector a regulatory instrument which is similar in concept to the prohibition of abuse of dominance in Chapter II of the Competition Act but which differs from it in certain respects. The DGES himself described the MALC as consistent with the approach embodied in the Competition Act and as having been modelled on it. We therefore consider it useful to compare the DGES's definition of 'substantial market power' in the MALC—which is summarized in paragraphs 2.55 to 2.57 and set out fully in Chapter 4—with the broader definition of market power in the OFT guideline. There are four aspects: the ability of an undertaking to act independently; its ability to raise prices consistently; its ability to raise prices profitably; and its ability to raise prices above competitive levels."

Some of the discussion regarding the last 3 of these aspects is extracted below:

The ability to raise prices consistently

"2.181. The guidelines to the MALC state that, in the circumstances of the wholesale electricity market, conduct does not need to be continuous in order to be seen as an exercise of market power. This is because the non-storability of electricity serves to segment the market by time period and the market power that a generator possesses can vary from half-hour to half-hour and from day to day. Thus a

generator which can influence market prices at the daily peak, or on a particular day, may have much less ability to do so during off-peak periods or on another day.

2.183. More fundamentally, it is important to keep in mind that this is a commodity market in which prices are volatile. There are troughs as well as peaks in prices and it would be hazardous to draw conclusions from the observation of prices over relatively short periods in the absence of a clear demonstration that price changes have resulted from the use of market power. What matters most is the trend in average prices over a period: given the strong seasonal factors affecting the market, a year is the most logical period to take. Short-term fluctuations in prices are significant only if they have longer-term effects....."

The ability to raise prices profitably

"2.185. The logic of the OFT guideline is that, for a company to have market power, it is not enough for it to be able to raise prices: it must also be able to do so profitably. An example from the electricity market serves to illustrate the point: a generator might well be able to cause prices to rise by withdrawing capacity, but it would have no incentive to do so—and therefore no effective market power—unless the net effect on its business was favourable.

2.186. Neither the MALC itself nor the guidelines issued in connection with it state that a generator will be deemed to have market power only if it can raise prices profitably. The DGES told us that this was his view, however, and indicated that the point would be incorporated in the guidelines when they were next reviewed. The guidelines already state that, in determining whether conduct amounts to an abuse, the effects of assumed changes in conduct on profitability will be assessed and that price effects that are not compatible with profitable business strategies will be ignored."

The ability to raise prices above competitive levels

"2.187. The DGES made it clear that he did not regard benchmarking to a competitive price as necessary to an investigation of abuse of substantial market power. He told us that he had no view as to what the correct level of prices should be: his concern was with the ability of generators individually to move the level of prices independently of market conditions, and he sought to infer this directly by observing the effects of their conduct, rather than by seeking to establish the competitive price and drawing inferences from that.

2.188. It was clear, however, that a major element in the DGES's justification for the introduction of the MALC was his view that wholesale electricity prices had not fallen in line with generators' costs and that prices remained above the level of new entry costs (see paragraph 2.114). At the joint hearing which we held in the course of the inquiry, the DGES said that, as a consequence of the absence of effective competition, generating output prices were higher than they should be for all consumers. It was clear to us from the totality of the DGES's evidence that he considered that prices were too high and that he saw the MALC as one of a number of necessary measures for bringing them down. ...

2.257. It is true that the DGES has produced an apparently precise definition of what he means by a substantial change in wholesale electricity prices (a key element in his definition of substantial market power): in effect, an increase of £30 million in market prices (see paragraph 2.182). But the benchmark from which the price increase has to be measured is unclear. The technique of comparing prices in two different periods does not provide a basis for saying that the price in either period is in some sense correct. ..."

Why the MALC was ultimately struck down

Having undertaken a thorough assessment of the MALC, the Competition Commission ultimately decided to strike it down for the following reasons:

"2.258. We consider, therefore, that the problem of uncertainty, both for generators and for other market participants, over the interpretation of a prohibition of substantial market power is substantive. .... Because of the difficulty of distinguishing between abusive and acceptable conduct, there is a risk that such a prohibition will deter normal competitive behaviour and thus inhibit the operation of the market. A dampening of price volatility, for example, could reduce the effectiveness of price signals and inhibit the development of more flexible responses from both the supply and demand sides.

2.259. Moreover, at a time when the structure of the generation sector is much improved and a new market design, intended to get away from the problems experienced with the Pool, is shortly to be introduced, there is a danger that the introduction of a prohibition of substantial market power would amount to over-regulation. This could deter investment and new entry, with harmful effects on consumers in the longer term. We believe that competition should be given the opportunity to work in the new circumstances without the introduction at this stage of new broadly-framed regulation."