RULE CHANGE

Australian Energy Market Commission

DIRECTIONS PAPER

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

Rule Proponent(s)

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About the AEMC

The Council of Australian Governments, through its Ministerial Council on Energy (MCE), established the Australian Energy Market Commission (AEMC) in July 2005. The AEMC has two principal functions. We make and amend the national electricity and gas rules, and we conduct independent reviews of the energy markets for the MCE.

Executive summary

This Directions Paper sets out the Australian Energy Market Commission's proposed approach to the definition of market power in the context of the national electricity market (NEM). Addressing this issue is an important step in the Commission's consideration of the Rule change request that was submitted by the Major Energy Users Inc. (MEU) in relation to the potential exercise of market power by generators in the NEM.

The Commission's proposed definitions

In this paper, the Commission defines 'substantial market power'. This paper explains why the Commission considers that 'substantial market power' is the most appropriate term in the context of the NEM, and why it is a more useful concept than 'market power' when assessing the MEU's proposal.

The Commission proposes that 'substantial market power' should be defined as follows in the context of the NEM:

> **Substantial market power** in the context of the NEM is the ability of a generator to increase annual average wholesale prices to a level that exceeds long run marginal cost (LRMC), and sustain prices at that level due to the presence of significant barriers to entry.

This paper also defines the 'exercise' of substantial market power. The Commission considers that regulatory intervention is only potentially justified if there is evidence that a generator has exercised, or is likely to exercise, substantial market power.

The Commission's proposed definition of the 'exercise of substantial market power' is:

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

These definitions, and the Commission's reasons for adopting them, are explained below.

Why it is appropriate to define 'substantial market power' rather than 'market power'

The AEMC's Consultation Paper in April 2011 stated that this Directions Paper would seek to clarify the meanings of 'market power' and the 'exercise of market power'. However, the majority of submissions to the Consultation Paper argued that 'market power' was not the appropriate term and was not a useful concept in the context of the NEM.

The Commission agrees with those submissions, and considers that 'substantial market power' is a more appropriate term than 'market power'. This terminology distinguishes the Commission's approach from the theoretical concept of 'market power' that is derived from a comparative static analysis of markets where the inputs into production and their costs are assumed to be able to be varied continuously with output. To be useful in a real world setting, particularly in the context of a sector like electricity that requires 'lumpy' non-divisible capital investments, a time dimension needs to be recognised. Failure to do so risks misclassifying 'quasi-rents' - revenues that recover capital expenditure over time - with pure rents than can be a source of economic inefficiency. This distinction is important in electricity markets where an efficient generation capital stock will consist of different technologies and maintenance of reliability and supply depends on timely investment.

Accordingly, in this paper the Commission defines 'substantial market power' and the 'exercise of substantial market power'.

Defining 'substantial market power' instead of 'market power' more clearly distinguishes between:

- conduct that involves sustained pricing above the level that would prevail in a workably competitive market;[1] and
- 'transient pricing power', which involves a transient ability to increase prices above costs for short periods of time.[2]

A transient increase in wholesale spot price is not, in itself, sufficient to constitute a market power problem that justifies regulatory intervention.

Focussing on substantial market power is consistent with the National Electricity Objective (NEO), which has guided the Commission's approach in this paper. The exercise of substantial market power as defined in this Directions Paper is likely to be detrimental to the achievement of the NEO. It is likely to reduce efficient investment in electricity services and result in less efficient use of those services by customers. Substantial market power may also result in productive inefficiency and a reduced incentive on generators to minimise their costs, which is likely to increase the overall cost structure of the sector.

If a generator is able to sustain average wholesale spot or contract prices above a workably competitive level, those prices are likely to flow through to retail prices and increase the prices that users pay for electricity. Electricity is a vital input into most goods and services, and sustained high electricity prices can have a significant impact on the broader economy.

In contrast, transient wholesale spot price spikes are not likely to have the same effect on achievement of the NEO or the broader economy. Indeed, occasional spot prices above cost are an inherent feature of an energy-only market such as the NEM and

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1 Several stakeholders referred to a similar concept as 'enduring market power' in submissions.

2 Several stakeholders referred to a similar concept as 'transient market power' in submissions.

provide a mechanism for generators to recover their efficient fixed costs, particularly given that wholesale prices may be very low or negative at other times. An attempt to prevent transient wholesale spot price spikes is likely to deter investment, which could result in higher prices and lower levels of reliability over the longer term.

Explanation of the Commission's proposed definitions

This Directions Paper explains the interpretation and application of the Commission's proposed definitions.

An important element of the Commission's definitions is the identification of the relevant measures of prices and costs. The Commission proposes that the relevant price is the annual average wholesale price (having regard to both spot and contract prices) and the relevant cost is LRMC.

This Directions Paper discusses the appropriate method of calculating LRMC in the context of the NEM. LRMC does not necessarily equal the capital and operating costs of constructing a new generating unit. LRMC estimates the cost (in net present value terms) of bringing forward a capacity expansion so that it occurs sooner than would otherwise be the case in order to meet a specified increase in demand.

For the purposes of the definitions in this paper, 'wholesale prices' does not simply mean spot prices. When assessing wholesale prices, the Commission will have regard to both spot and contract prices. The Commission recognises that one of the challenges in the next stage of this Rule change process will be obtaining accurate information regarding contract prices.

The Commission's proposed definitions do not require wholesale prices to be *continuously* above LRMC. Price spikes may constitute evidence of substantial market power if they occur to such an extent and with sufficient frequency that they cause annual average wholesale spot or contract prices to exceed LRMC. However, economic withholding of capacity causing a high wholesale spot price in a single 30 minute trading interval does not constitute an exercise of substantial market power that justifies regulatory intervention in the form of a Rule change.

The Commission's definitions refer to barriers to entry, which are an important feature of substantial market power. The Commission will assess the existence of barriers to entry in the next stage of this process. That assessment will include strategic barriers, which can be important in electricity markets. For example, a generator with substantial market power may seek to deter new entry by engaging in conduct that reduces a potential competitor's confidence that it will be able to operate profitably once it has incurred the significant sunk costs that are required for entry.

The Commission engaged NERA Economic Consulting to provide a report on several of the issues discussed in this paper. The Commission also engaged Professors Joshua Gans and Stephen King to provide a peer review of NERA's report. Those reports have been published together with this Directions Paper.

The definition of the relevant 'market'

In order to assess whether a generator has substantial market power, it is necessary to determine the relevant 'market' in which to make that assessment. The process of defining the market helps identify the potential substitutes that impose a significant competitive constraint on a generator's behaviour. In the context of the definitions set out above, the choice of the relevant market also determines which prices should be assessed when applying those definitions.

The Commission has adopted the usual competition law approach to market definition. Under that approach, a market is defined in terms of its product, geographic, functional and temporal dimensions.

The Commission proposes that the relevant dimensions of the market are as follows:

- *Product:* The relevant product is electrical energy supplied to the wholesale market. When determining the price for this product, the Commission will have regard to both spot and contract market prices.
- *Geographic:* Further empirical assessment is required to determine the boundaries of the geographic market, for example whether the entire NEM is a single market or whether each NEM region is a separate market. This paper describes how the Commission will undertake that assessment after publication of this Directions Paper, which will involve the application of the 'SSNIP'[3] test commonly applied by competition authorities.
- *Functional:* The relevant functional dimension is electricity generation.
- *Temporal:* The relevant timeframe is at least one year, and potentially two to three years. The Commission proposes to measure 'annual average' wholesale spot and contract prices when assessing whether a generator has substantial market power. The second part of the definition of substantial market power set out above also requires those prices to be sustainable due to the existence of significant barriers to entry, which will ensure that longer term substitution possibilities over at least two to three years are also considered.

'Tacit collusion'

The MEU's Rule change request raises the issue of potential 'tacit collusion' by generators, but notes that tacit collusion would be difficult to address and it does not seek to do so.

Tacit collusion relates to generators bidding in a coordinated way, but without an express agreement. The Commission proposes that it is not appropriate to address tacit collusion as part of this Rule change process. The Commission considers that tacit collusion is more appropriately addressed by the Australian Competition and

3 **S**mall but **s**ignificant **n**on-transitory **i**ncrease in **p**rice. This test is explained in section 2.4.2.

Consumer Commission (ACCC) under the *Competition and Consumer Act 2010* (CCA). The Commission notes that the ACCC and the Commonwealth Government have recently proposed amendments to the CCA that would extend its application to certain forms of tacit collusion.

The AEMC's power to make the MEU's proposed Rule

This paper also responds to submissions regarding the Commission's power to make the MEU's proposed Rule and whether the Commission is the appropriate body to consider the issues raised in the MEU's proposal.

In summary, the MEU's Rule change request proposes amendments to the National Electricity Rules (Rules) to:

- require the Australian Energy Regulator to assess which generators in each NEM region have market power and declare each of those generators to be a 'dominant generator' when regional demand exceeds a specified level; and
- impose restrictions on the dispatch offers that may be submitted by a 'dominant generator' so that when regional demand exceeds the level at which the generator has been declared to be a dominant generator, the dominant generator must offer all of its available capacity for dispatch at a price that does not exceed the administered price cap of $300/MWh.

This proposal comes within the Commission's general powers to make Rules regulating the operation of the NEM and the activities of persons operating in the NEM. It is also covered by the power to make Rules regulating the setting of wholesale prices, including maximum prices or the methodology to be applied in setting wholesale prices.

This paper also responds to questions regarding whether the AEMC is the appropriate body to consider the issues raised by the MEU or whether those issues are more appropriately addressed by the ACCC under the CCA.

The MEU's proposal does not seek to introduce a Rule that prohibits anti-competitive behaviour of a kind that is covered by the CCA, and the Commission has no intention of making such a Rule. Instead, the Commission is seeking to investigate whether there is evidence that generators are exercising substantial market power in a manner that negatively impacts on the achievement of the NEO but which does not breach the CCA.

Next steps

Although this Directions Paper does not ask any specific questions, the Commission is seeking submissions from stakeholders in response to the proposed approach set out in this paper.

This Directions Paper relates to step 1 of the assessment framework that was explained in the AEMC's Consultation Paper - defining the problem. The definitions proposed in this paper, and submissions on those definitions, will enable the Commission to commence step 2 of that assessment framework - assessing whether there is evidence of that problem, i.e. the exercise of substantial market power by generators in the NEM.

In this next step, the Commission will assess whether there is evidence of the exercise of substantial market power in the recent past. It will also consider whether there is evidence of any expected changes in market circumstances which may mean that the exercise of substantial market power is either more or less likely in the future.

The Commission is seeking submissions in relation to whether there is evidence of the exercise or likely exercise of substantial market power, as defined in this paper.

If there is evidence that a generator has exercised, or is likely to exercise, substantial market power, the Commission will proceed to step 3 of its assessment framework - assessing potential solutions to that problem, which will include the MEU's proposed Rule and potentially a more preferable Rule. If that is the case, the Commission expects to issue a Preliminary Assessment and Options Paper setting out the results of its investigations and potential options that the Commission may consider for a more preferable Rule. However, if step 2 demonstrates that there is no evidence of the exercise or likely exercise of substantial market power, the Commission expects to proceed directly to making a draft determination not to make a Rule.

Submissions on this Directions Paper close on 17 November 2011.

The Commission also proposes to hold a public forum in Adelaide in October to allow stakeholders to discuss the issues raised in this Directions Paper. Details of the forum will be confirmed following publication of this Directions Paper.

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1 Introduction and background

1.1 Introduction

1.1.1 The MEU's Rule change request

On 23 November 2010, the Major Energy Users Inc. (MEU) submitted a Rule change request to the Australian Energy Market Commission (AEMC or Commission) in relation to the potential exercise of market power by generators in the National Electricity Market (NEM).

The MEU's Rule change request is entitled "Proposed Rule change to enhance generator competition outcomes during high demand periods in the NEM". The stated purpose of the proposed Rule change is to prevent or constrain the exercise of market power by generators in the NEM. In particular, the MEU considers that during periods of high demand, some large generators do not face effective competition and have the ability to use their market power to increase the wholesale spot price, with flow on effects on contract prices.

To address this perceived problem, the MEU proposes amendments to the National Electricity Rules (Rules) that would:

- require the Australian Energy Regulator (AER) to assess which generators in each NEM region have market power and declare each of those generators to be a 'dominant generator' when regional demand exceeds a specified level; and

- impose restrictions on the dispatch offers that may be submitted by a 'dominant generator' so that when regional demand exceeds the level at which the generator has been declared to be a dominant generator, the dominant generator must offer all of its available capacity for dispatch at a price that does not exceed the administered price cap (APC), which is currently set at $300 per megawatt hour (MWh).

1.1.2 The AEMC's Consultation Paper

On 14 April 2011, the AEMC published a Consultation Paper in relation to the MEU's Rule change request.

The Consultation Paper:

- provided an overview of the MEU's Rule change proposal and the perceived problem that it is seeking to address;

- explained the AEMC's proposed framework for assessing the Rule change proposal; and

- identified key issues related to the Rule change proposal and set out a number of questions for stakeholders.

The AEMC received 19 submissions from a range of stakeholders in response to the Consultation Paper.

Consultation Paper submissions by stakeholder type

Stakeholder type	Number of submissions
User, user group or consumer group	5
Generator	7
Government or regulator	3
Retailer	1
Other	3

These stakeholders expressed very diverse views. The submissions by the AER and the NEM Generators' Group also attached detailed expert reports. The submissions are available on the AEMC website: www.aemc.gov.au.

The AEMC also established a Web Forum to allow stakeholders to submit additional comments or papers, including responses to other stakeholders' submissions. The only documents received for the Web Forum were a paper by the MEU responding to the submission from the NEM Generators' Group, and a letter from Frontier Economics responding to a comment made in the MEU's paper.

1.1.3 The Rule change process and the AEMC's assessment framework

The Consultation Paper noted that commencing the Rule change process does not indicate that the Commission intends to make the proposed Rule. The outcome of the Rule change process may be that the Commission decides to:

- make the MEU's proposed Rule;
- make a more preferable Rule that is different from the MEU's proposed Rule; or
- not make any Rule change.

The Commission may only make a Rule change if it determines that the Rule change will, or is likely to, contribute to the achievement of the National Electricity Objective (NEO).[4] The Commission may only make a more preferable Rule if it is satisfied that, having regard to the issues that were raised by the Rule change proposal, the more preferable Rule will or is likely to better contribute to the achievement of the NEO.

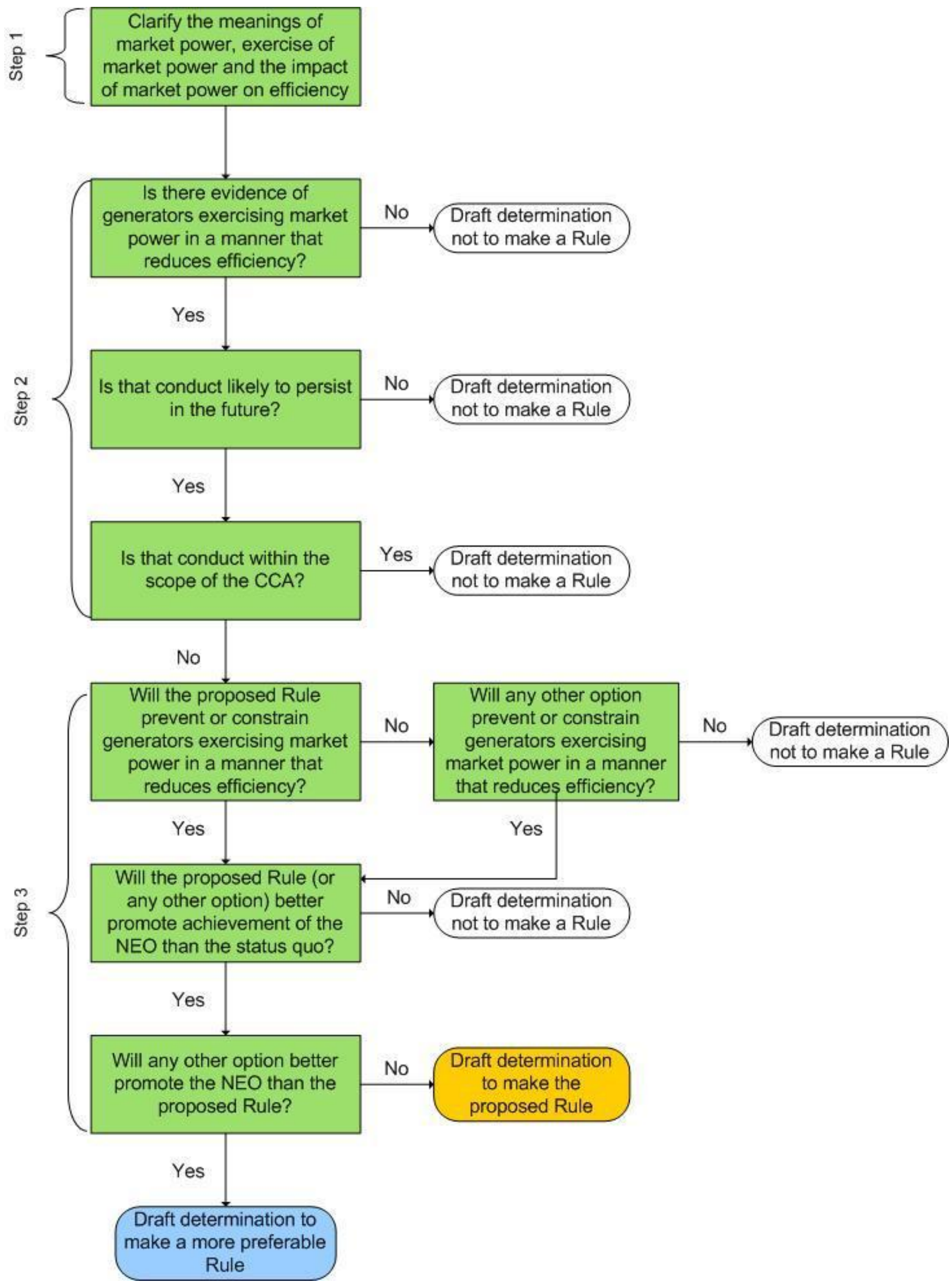
[4] See section 88 of the National Electricity Law (NEL). The NEO is set out in section 7 of the NEL .

The Consultation Paper set out the AEMC's proposed framework for assessing the Rule change proposal. The assessment framework involves the following three steps:

- defining the problem;
- assessing whether there is evidence of that problem; and
- assessing potential solutions to that problem.

The assessment framework is summarised in the following diagram from the Consultation Paper.

Figure 1.1 Assessment framework decision tree



1.2 Purpose of this Directions Paper: step 1 - defining the problem

This Directions Paper addresses step 1 of the above assessment framework - defining the problem. Before it is possible to properly assess the effect of the Rule change proposal (or a more preferable Rule) on the NEO, it is necessary to clearly define the problem that the Rule change proposal is seeking to address, and then investigate whether there is evidence of the existence of that problem.

The stated purpose of the MEU's proposal is to prevent or constrain the exercise of market power by generators in the NEM. In particular, the MEU is concerned that some generators have market power that they are able to exercise during periods of high demand to increase the wholesale spot price to a high level that significantly exceeds their costs.

The Commission considers that the problem that the MEU's proposal is seeking to address is the exercise of market power by generators in the NEM, where that market power is exercised with the purpose or effect of increasing wholesale spot or contract prices.[5]

The MEU's proposed Rule does not contain a definition of 'market power'. Submissions on the Consultation Paper demonstrated significant disagreement between stakeholders in relation to the appropriate approach to defining market power.

Accordingly, the primary purpose of this Directions Paper is to set out the Commission's proposed approach to defining market power in the context of the NEM.

In doing so, this Directions Paper also addresses the related issues of:

- whether a distinction should be drawn between 'market power' and 'substantial market power';
- what is the appropriate definition of the 'exercise' of market power in the context of the NEM;
- what is the relevant 'market' for these purposes; and
- whether 'tacit collusion' should be considered as part of this Rule change process.

The definitions set out in this Directions Paper will then enable the Commission to commence step 2 of the assessment framework and assess whether there is evidence of a problem. If there is evidence of a problem, the Commission will proceed to step 3 - assessing solutions to that problem. If there is no evidence of a problem, the

5 The Consultation Paper proposed that, based on the scope of the MEU's Rule change request, the scope of issues to be considered by the Commission would be limited to conduct by generators (not other registered participants) in relation to the wholesale energy market (not other markets such as ancillary services) that has the purpose or effect of increasing the wholesale price of electricity. No submitters raised issues with this proposed scope. The Commission confirms that the scope of issues considered by the Commission will be limited to these matters.

Commission expects to make a Draft Determination not to make the proposed Rule or a more preferable Rule.

1.3 Responding to this Directions Paper

Although this Directions Paper does not pose any specific questions, the Commission is seeking comments from stakeholders on the Commission's proposed approach set out in this Directions Paper. The Commission is also seeking submissions in relation to whether there is evidence of the exercise or likely exercise of substantial market power, as defined in this paper.

1.3.1 How to make a submission

The closing date for submissions on this Directions Paper is 17 November 2011.

Submissions should quote the project number "ERC0123" and may be lodged online via the Commission's website, www.aemc.gov.au, using the "lodge a submission" function or by mail to:

Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Where practicable, submissions should be prepared in accordance with the Commission's Guidelines for making written submissions on Rule change proposals.[6] The Commission publishes all submissions on its website, subject to a claim of confidentiality.

All enquiries regarding this project should be addressed to Richard Owens on (02) 8296 7800.

1.3.2 Public forum

The Commission proposes to hold a public forum to discuss this Directions Paper and provide an opportunity for stakeholders to discuss the issues raised in this paper, provided that there is sufficient interest from stakeholders. It is proposed that the forum will be held in October 2011 in Adelaide.

Stakeholders are requested to advise the Commission whether they wish to attend a forum. The Commission will confirm details of the forum following publication of this Directions Paper.

6 This guideline is available on the Commission's website.

1.4 Structure of this Directions Paper

Chapter 2 of this paper sets out the Commission's proposed approach to the definition of market power in the context of the NEM, including:

- why the Commission proposes that a distinction should be made between 'market power' and 'substantial market power';
- the Commission's proposed definition of 'substantial market power';
- the Commission's proposed definition of the 'exercise' of substantial market power;
- the Commission's proposed definition of the relevant market; and
- the Commission's proposed approach to 'tacit collusion'.

Chapter 3 explains in detail the Commission's reasons for its proposed approach. The Commission's approach has been informed by consideration of the following matters that are discussed in chapter 3:

- a report prepared for the Commission by NERA Economic Consulting (NERA report), and a peer review of that report by Professors Joshua Gans and Stephen King (peer review report);
- stakeholders' submissions, including a report by Frontier Economics that was commissioned by the NEM Generators' Group (Frontier report) and a paper by Dr Darryl Biggar that was commissioned by the AER (Biggar report);
- economic literature on market power;
- competition law literature and case law regarding market power;
- approaches taken by international energy regulators to market power issues; and
- previous AEMC comments on market power issues.

Chapter 4 responds to stakeholder submissions regarding the Commission's power to make the MEU's proposed Rule.

Chapter 5 explains the next steps in the Rule change process, including the process for investigating whether there is evidence of the exercise of substantial market power.

Appendix A contains a table summarising the key issues raised in submissions to the Consultation Paper and the Commission's response, to the extent that those submissions relate to issues that are addressed in this Directions Paper.[7]

7 Where submissions to the Consultation Paper raised issues that are not addressed in this Directions Paper, the Commission intends to respond to those submissions in the Draft Determination.

The NERA report and the peer review report are available on the AEMC website: www.aemc.gov.au.

2 The Commission's proposed approach

This chapter 2 sets out the Commission's proposed approach to the definition of market power in the context of the NEM. Chapter 3 explains the reasons for the Commission's proposed approach in more detail and discusses the key matters that the Commission has considered in developing its proposed approach.

2.1 'Market power' or 'substantial market power'?

The Consultation Paper stated that this Directions Paper would seek to clarify the appropriate meanings of 'market power' and the 'exercise of market power' in the context of the NEM. The Commission considers that a clear definition of these terms is important to define the problem that the MEU's proposal is seeking to address and to allow the Commission to assess whether the MEU's proposal, or a more preferable Rule, is likely to contribute to the achievement of the NEO.

However, submissions to the Consultation Paper revealed that not only do submitters have different views as to the appropriate definition of market power, but they also strongly disagree on the appropriate terminology and whether 'market power' is the correct term and concept to use in the context of the NEM.

Some submitters, primarily the AER and MEU, considered that 'market power' is the appropriate term. However, the majority of submitters proposed that 'market power' was not the appropriate term and that it was not a useful concept in the context of the NEM.

Distinguishing between substantial market power and transient pricing power

Many submitters, the NERA report and the report by Frontier Economics that was provided with the NEM Generators' Group submission[8] drew a distinction between:

- on one hand, what was variously described as 'substantial market power', 'enduring market power' or 'significant market power'; and
- on the other hand, what was described as 'temporary pricing power', 'transient market power' or 'situational market power'.

The Commission considers that such a distinction is useful and 'substantial market power' is more illuminating than simply referring to 'market power'.

In this paper, the Commission sets out its proposed definitions of 'substantial market power' (see section 2.2 below) and the 'exercise of substantial market power' (see section 2.3). The Commission considers that these are the most appropriate terms to use when assessing the MEU's proposal. The reasons for this approach are set out in the remainder of this section 2.1.

8 Frontier Economics, *Response to AEMC consultation paper*, June 2011.

This approach of defining 'substantial market power' as opposed to 'market power' clearly distinguishes between:

- 'substantial market power', which involves sustained pricing above the level that would prevail in a workably competitive market;[9] and
- 'transient pricing power', which involves a transient ability to increase prices above costs for short periods of time.[10]

Perfect competition and workable competition

This distinction between 'transient pricing power' and 'substantial market power' also reflects the distinction between perfect competition and workable competition. Several submitters considered that this distinction was important when seeking to define market power in the context of the NEM and assessing the MEU's proposal.

In a perfectly competitive market, all firms will sell all of their output at their short run marginal cost (SRMC), with each firm producing a homogeneous product and having an identical SRMC curve. In a perfectly competitive market, it is assumed that firms do not incur any sunk costs, which means that SRMC and long run marginal cost (LRMC) will be equal.

Perfectly competitive markets rarely, if ever, exist in practice. In electricity markets for example, generators incur significant sunk costs and do not face identical costs. The Commission proposes that workable competition is the more appropriate benchmark when defining market power in the context of the NEM and assessing the MEU's proposal.

In a workably competitive market, prices will reflect LRMC (and the underlying trend in SRMC) over the long term. In addition, in a workably competitive market with substantial fixed costs, such as electricity generation, SRMC and LRMC will not be the same and they will both vary over time. Accordingly, a longer term perspective is required when defining and assessing market power.

Price spikes

A transitory price spike that causes wholesale spot or contract prices to exceed SRMC or LRMC in the short term does not in itself indicate the existence of a market power problem that justifies regulatory intervention.

The Commission considers that occasional price spikes are an inherent feature of a wholesale electricity market and that it would be inappropriate to seek to prevent them by introducing a Rule that sought to remove transient pricing power. For example, if

9 Substantial market power is similar to what several submitters referred to as 'enduring market power'.

10 In this paper, the Commission uses the term 'transient pricing power'. The NERA report refers to this concept as 'temporary pricing power' and several submitters referred to a similar concept as 'transient market power', but the Commission considers 'transient pricing power' to be the most appropriate description of this concept.

wholesale prices were unable to at least occasionally increase to levels that exceed the variable costs of a peaking generator, there is a significant risk that some or all generators would be unable to recover their efficient fixed costs. These issues are discussed in more detail in sections 3.3.4, 3.4.2 and 3.6.2 below.

This approach does not mean the Commission intends to ignore evidence of bidding behaviour by generators that leads to high spot prices, such as economic withholding of capacity.[11] However, it means that a long term perspective is required when considering price spikes, and long term average spot and contract prices must be compared with the prices that would be expected in a workably competitive market. As explained in section 2.2.1 below, if a generator is able to increase spot or contract prices to such an extent and with sufficient frequency that it causes sustained average prices that exceed the competitive level, that may constitute evidence of substantial market power.

Application of the NEO

The Commission considers that the exercise of 'substantial market power' as defined in this paper is likely to be detrimental to the achievement of the NEO. It is likely to reduce efficient investment in electricity services and result in less efficient use of those services by customers. The exercise of substantial market power is likely to result in sustained inefficiently high wholesale spot and contract prices. Substantial market power may also result in productive inefficiency and a reduced incentive on generators to minimise their costs, which is likely to increase the overall cost structure of the sector. It may also restrict competition in retail and hedge markets and result in higher retail prices.

Accordingly, the exercise of substantial market power is likely to be contrary to the long term interests of consumers. Regulatory intervention to prevent or constrain the exercise of substantial market power is therefore likely to contribute to the achievement of the NEO, provided that the benefits of any proposed solution exceed the costs in terms of achievement of the NEO.

Several submitters (including generators) shared this view and set out the likely effects of the exercise of substantial market power on relevant aspects of efficiency in the NEM.[12]

Based on the submissions received and the Commission's analysis and research, which is discussed in chapter 3 of this paper, the Commission proposes that regulatory intervention to constrain or remove transient pricing power is unlikely to contribute to the achievement of the NEO. Such regulatory intervention may result in some short term benefits in relation to the efficient operation and use of electricity services as a result of allocative and productive efficiency gains, for example by avoiding the

11 The MEU defines 'economic withholding' as occurring where a generator offers a proportion of its capacity near the market price cap so that it is less likely to be dispatched and other generators will be dispatched ahead of it - MEU Rule change request, p32. The Commission adopts that definition in this paper.

12 See section 3.3.2 below.

productive efficiency costs of out-of-merit-order dispatch. However, those short term benefits are likely to be significantly outweighed by longer term dynamic efficiency losses, in particular a notable reduction in incentives for efficient investment in generation.

As explained in later sections of this paper, regulatory intervention to constrain or remove transient pricing power is likely to deny at least some generators the opportunity to recover their efficient fixed costs.[13] If generators are unable to recover their efficient costs, then investment will be severely impacted. The long term result is likely to be higher prices and lower reliability, which would be contrary to the long term interests of consumers.

2.2 The Commission's proposed definition of 'substantial market power' in the context of the NEM

For the reasons explained in section 2.1 above, this paper sets out the Commission's proposed definition of 'substantial market power' rather than 'market power'. The Commission proposes that 'substantial market power' is the most appropriate concept to use when assessing the MEU's proposal.

As noted in section 2.1, different submitters proposed that the appropriate term was 'market power', 'substantial market power', 'enduring market power' or 'significant market power'. The proposed definitions of those terms were also very varied. Stakeholders' proposed definitions are discussed in section 3.3 below.

The Commission also notes that market power and substantial market power have been defined in a variety of ways in economic literature, competition law, and international electricity regulatory rules and decisions. Those definitions are discussed in sections 3.4, 3.5 and 3.6 below.

The Commission has considered the definitions proposed by stakeholders as well as the definitions adopted in economic literature, competition law and other potentially relevant sources in forming its view on the appropriate definition of substantial market power in the context of the NEM.

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13 As discussed in sections 3.3.4 and 3.4.2 below, in theory it would be possible for generators to recover their fixed costs by bidding at SRMC if there were a large number of supply shortages where the price is set to the market price cap (MPC), but in practice that outcome is unlikely without producing an unacceptably high level of outages or significantly increasing the MPC. This issue is likely to be exacerbated by the existence of low or negative prices in some trading intervals, which could prevent a generator from even recovering its SRMC on average if it was unable to bid above SRMC in other trading intervals.

2.2.1 The Commission's proposed definition

The Commission proposes that 'substantial market power' should be defined as follows in the context of the NEM.

> **Proposed definition of 'substantial market power'**
>
> **Substantial market power** in the context of the NEM is the ability of a generator to increase annual average wholesale prices to a level that exceeds LRMC, and sustain prices at that level due to the presence of significant barriers to entry.

This definition is based on the definition set out in the NERA report. The NERA report stated that a firm has substantial market power only if:

- it has the ability to sustain prices above LRMC, including an appropriate return on capital and accounting for risk; and
- it is insulated from competition by significant barriers to entry and expansion that enable it to sustain prices at that level.[14]

Applying that general definition to the NEM, NERA considered that a generator in the NEM has substantial market power only if:

- it has the ability to increase average spot prices to such an extent and with sufficient frequency that they exceed the LRMC of adding capacity; and
- it is insulated from the forces of competition due to significant barriers to entry and expansion that enable it to sustain average prices at that level.[15]

The Commission's proposed definition does not require wholesale spot or contract prices to be *continuously* above LRMC. If a generator is able to cause price spikes, for example by withholding capacity, that may be evidence of substantial market power if those price spikes occur to such an extent and with sufficient frequency that they cause annual average spot prices to exceed LRMC (with flow on consequences for contract prices).

However, transient price spikes that do not result in above-LRMC average prices do not demonstrate that a generator has substantial market power. In this sense, the Commission's definition clearly distinguishes 'substantial market power' from 'transient pricing power'.

The Commission's definition refers to the existence of significant barriers to entry. In the absence of significant barriers to entry, the threat of new entry or expansion would be expected to prevent existing generators sustaining above-LRMC prices and therefore generators would not be likely to exercise substantial market power.

14 NERA Economic Consulting, *Potential Generator Market Power in the NEM, A Report for the AEMC*, 22 June 2011, p14.

15 Ibid, p27.

This paper does not seek to define or identify barriers to entry. The Commission will address those issues in later stages of this process.

The peer review report notes that 'strategic barriers to entry' will be an important consideration.[16] Strategic entry barriers can be important in electricity markets where significant sunk costs will be incurred by a new entrant and as a result potential entrants require reasonable confidence that they will be able to recover those costs once they have entered the market. For example, an incumbent generator could engage in conduct that is intended to signal to a potential new generator that it has substantial market power and that it will exercise that power if the generator enters the market. Such behaviour would be intended to deter entry by reducing the potential new entrant's confidence that it will be able to operate profitably once it has incurred the significant sunk costs that are necessary to enter the market.

2.2.2 Relevant prices and costs

This section explains the proposed measures of prices and costs that are referred to in the above definition of substantial market power.

'Annual average wholesale prices'

The Commission proposes that 'annual average wholesale prices' are the appropriate measure of prices for the purposes of this definition.

'Annual average' prices

The proposed use of annual average prices is an application of the Commission's views in section 2.4 below regarding the appropriate market definition. In that section, the Commission explains that the relevant temporal dimension of the market is at least one year, and potentially two to three years.

In addition to the use of 'annual' average prices in the first part of this definition, the second part of the definition requires that prices must be sustainable at that level due to the presence of significant barriers to entry. The definition does not set out a specific period over which prices must be sustainable. The Commission proposes that the relevant period should reflect the period under which new entry (which could consist of new generation entry, expansion of existing generation or an upgrade of the relevant interconnectors) would be expected to occur in the absence of significant barriers to entry. That period is likely to be at least two to three years.

The requirement that above-LRMC prices must be sustainable over this period reflects NERA's comment that a firm has substantial market power if it has the ability to sustain prices that should attract new investment (which, if it occurred, would reduce those prices to competitive levels), but that new investment is delayed or prevented due to significant barriers to entry.

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16 Core Research, *Re: Review of NERA Report dated 22nd June 2011 (Final Report)*, 24 July 2011, p3.

These comments do not mean that a generator only has substantial market power if there is evidence of several years of above-LRMC pricing in the recent past. The Commission's proposed definition requires that a generator has an 'ability' to sustain prices at that level. That ability can be demonstrated by a combination of evidence of past prices and behaviour, expected future prices, and an assessment of the extent and effect of barriers to entry.

Spot and contract prices

In assessing a generator's ability to affect wholesale prices, both spot and contract prices are relevant. References in the Commission's definitions and in this paper to 'wholesale prices' mean both spot and contract prices.

As discussed in section 2.4 below, the Commission proposes that the relevant product market is electrical energy supplied to the wholesale market. Spot and contract prices are different ways of expressing the price for that product. However, the Commission acknowledges that accurate information regarding spot prices is much more readily accessible than contract prices. Obtaining reliable information regarding contract prices will be one of the challenges in the next stage of this Rule change process.

The NERA report explains that contract prices reflect the expected level of future spot prices. NERA states that "if a generator is able to exercise substantial market power over the spot price, then the price of hedges can be expected to adjust to reflect the higher levels of expected future spot prices".[17]

However, NERA explains that a complication is that if a generator has entered into contracts at a high price for a significant proportion of its capacity, that may reduce its incentive to exercise substantial market power in the spot market during the term of those contracts. Accordingly, there may be periods where substantial market power has been exercised by a generator (by entering into above-LRMC priced contracts) but that market power is not manifested in the average spot price over the contract period. Gathering information regarding contract prices, to the extent that reliable information is available, will therefore assist in identifying substantial market power.

Long run marginal cost

The Commission proposes that the relevant cost measure for the purposes of the definition of substantial market power is LRMC. The remainder of this section explains how LRMC is calculated and explains several key issues related to LRMC.

17 NERA Economic Consulting, *Potential Generator Market Power in the NEM, A Report for the AEMC*, 22 June 2011, p30.

The calculation of LRMC

The NERA report contains an extensive discussion of marginal cost, including a detailed explanation of the calculation of SRMC and LRMC. NERA included this explanation because it considered that these concepts are often misconstrued.

NERA begins by explaining that:

- "[m]arginal cost is the added cost of producing a specified increment in output or, equally, the cost that is avoided by reducing production by a specified amount";

- "SRMC is the cost of an incremental change in demand, holding at least one factor of production - generally, capacity - constant"; and

- "LRMC relaxes this constraint and reflects the cost of an incremental change in demand assuming all factors of production can be varied".[18]

This definition of LRMC raises the question of an 'incremental change' compared to what? In electricity generation, as in many other industries, it is not practicable to add capacity in very small increments. Instead, economies of scale mean that it is efficient to add capacity in lumps. NERA explains that the effect of an increase in demand is therefore to bring forward the time at which a planned future 'lump' of capacity needs to be added. That bringing forward could be undertaken by existing generators or by new entrants. NERA summarises that:[19]

> "LRMC is therefore the costs – both operating and capital costs – associated with undertaking that expansion *sooner than would otherwise be the case* in response to the incremental change in demand, and the associated congestion costs."

Where there is an existing capital stock or system inherited from the past, and supply reliability must be maintained in the future, the relevant total cost function is total system costs through time, and increments in cost need to be considered with respect to both output and time. In these circumstances, LRMC will be the cost of bringing forward a capacity expansion so that it occurs sooner than otherwise would have been the case to meet a sustained increase in demand.

18 Ibid, pi.

19 Ibid, p5.

The LRMC of meeting a specified increment in demand

The NERA report refers to 'the LRMC of adding capacity'. NERA explains that this cost is essentially the LRMC 'for the market', and is based on the optimal investment profile to meet the relevant increment in demand:[20]

> "The LRMC of adding capacity (and the LRAC [long run avoidable cost] associated with reducing capacity) will therefore be determined by the operating and capital costs associated with the optimal investment profile needed to meet the relevant increment (or decrement, as the case may be) in demand. This may comprise investment by both existing market participants and by new entrants, and, potentially, investment in different production technologies. When the term LRMC is used throughout the remainder of this report, it should be interpreted in this way, ie, as the LRMC *for the market*."

In subsequent discussions, NERA clarified the meaning of 'the LRMC of adding capacity'. NERA explained that this term refers to the LRMC of bringing forward or adding capacity to meet a specified increment in demand.

The NERA report explains that LRMC reflects "the cost of serving an incremental change in demand in a market, assuming all factors can be varied".[21] This definition reflects the definition specified by Professor Ralph Turvey in his seminal papers on marginal cost.[22] Turvey's definition of marginal cost is based on the notion that an increment in demand that is expected to be sustained through time will cause the capacity expansion program needed to meet future demand to be brought forward, relative to that which would otherwise have been the case. Estimating LRMC therefore involves assessing the additional costs (in net present value terms) that would be incurred by the need to bring forward future capacity expansions to meet that increment in demand.

LRMC fluctuates over time

The NERA report explains that the fact that generation capacity must be added in lumpy units gives rise to "time-dependent fluctuations in LRMC".[23] LRMC will be lower when capacity utilisation is low and the next capacity expansion is not required for some time. LRMC will be higher where there is little spare capacity and a capacity expansion is close to being required.

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20 Ibid, pii.

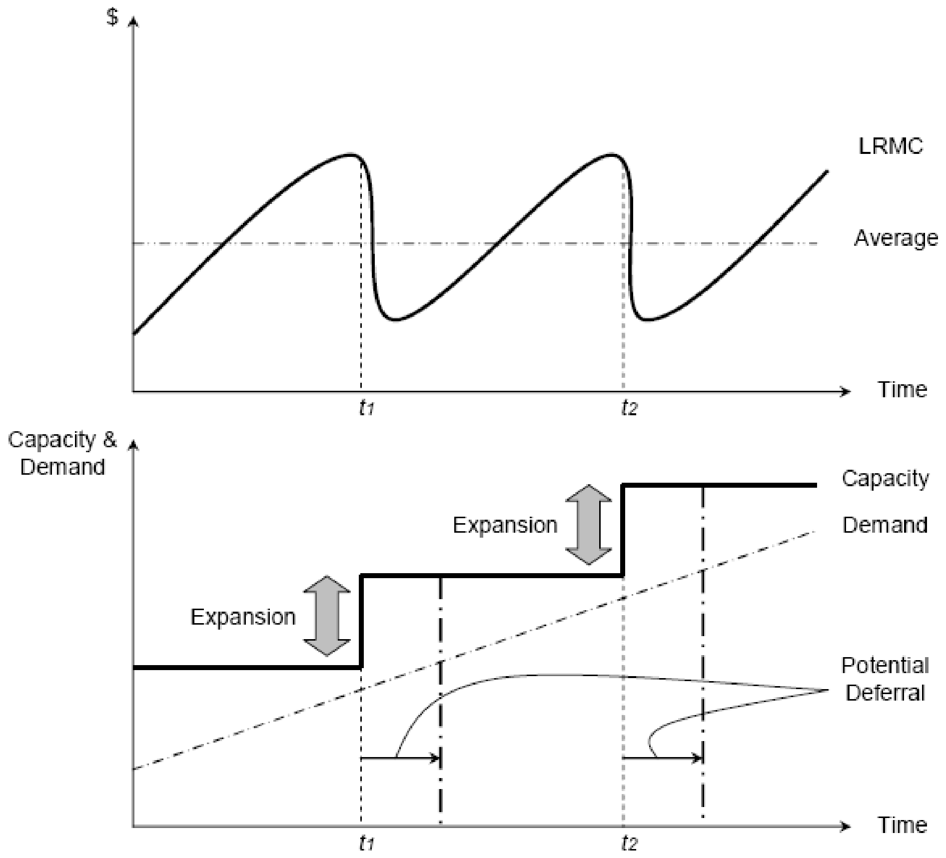
21 Ibid, p6.

22 Turvey, *Marginal Cost*, The Economic Journal, Vol. 79, No. 314 (June 1969), pp282-299; and Turvey, *Analyzing the marginal cost of water supply*, Land Economics, Vol. 52, No. 2 (May 1976), pp158-168.

23 NERA Economic Consulting, *Potential Generator Market Power in the NEM, A Report for the AEMC*, 22 June 2011, p52.

This feature of LRMC is illustrated in the following diagram from the NERA report.[24]

Figure 2.1 LRMC, Demand and Capacity over Time



This diagram shows a stylised example of the optimal expansion profile required to serve market demand and the associated LRMC over time. It illustrates that:

- in the period immediately following an expansion (i.e. after t_1 or t_2), the LRMC of the next increment of capacity is low, because the effects of discounting mean that the value of any potential deferral of that future capacity requirement is relatively low; and
- as spare capacity declines over time and the need to invest in new capacity approaches (i.e. leading up to t_1 or t_2), the LRMC of the next increment of capacity is higher, because the value of any potential deferral is less affected by discounting.

NERA summarises this issue as follows:[25]

> "In other words, LRMC *changes over time* as new capacity is added... This is because the cost today of, say, bringing forward by one year a $1m investment that would otherwise have taken place in 12 months' time is much greater than the cost today of that same one year rescheduling

24 Ibid, p53.

25 Ibid, pp52-53.

applied to a $1m investment expected to be made in 10 years' time, because of the time value of money.”

2.3 The 'exercise' of substantial market power'

2.3.1 Why define the 'exercise' of substantial market power?

The problem that the MEU's Rule change proposal is seeking to address is the 'exercise' of market power by generators in the NEM. The MEU's proposal states that the fact that a generator may have market power is not the main issue, and the problem only arises when a generator with market power elects to exercise it.[26] No submitters disagreed with this approach.

The Commission agrees with this comment and proposes that regulatory intervention is only potentially justified if there is evidence that generators have exercised, or are likely to exercise, substantial market power. The mere existence of substantial market power is unlikely to be sufficient if that power is never exercised.

This issue is also related to the distinction between having the *ability* to affect the wholesale price and having the *incentive* to do so. Joshua Gans and Stephen King's peer review report explains that a generator's hedge position in particular can have a significant impact on its incentives. For example, a generator that has contracted all of its capacity in the forward market may have an ability to affect the wholesale spot price, but it will have no incentive to do so and it is therefore highly unlikely to exercise any substantial market power that it may have in the spot market.[27]

Accordingly, this Directions Paper also defines the 'exercise of substantial market power' by a generator in the NEM. This definition will be used in the next stage of the Rule change process to investigate whether there is any evidence of a problem - i.e. any evidence that generators in the NEM have exercised or are likely to exercise substantial market power.

The exercise of substantial market power only *potentially* justifies a Rule change. If step 2 of the Rule change process finds evidence that generators are exercising (or are likely to exercise) substantial market power, step 3 will assess whether a Rule change will contribute to the achievement of the NEO. Even if there is evidence of the exercise of substantial market power, the Commission is not empowered to make a Rule unless it determines that a Rule change will, or is likely to, better contribute to the achievement of the NEO.[28]

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26 MEU Rule change request, p22.

27 Core Research, *Re: Review of NERA Report dated 22nd June 2011 (Final Report)*, 24 July 2011, pp3-4.

28 To be clear, the Commission does not intend to implement a Rule change that prohibits the exercise of substantial market power as defined in section 2.3.4 below. Instead, this definition will be used to help determine whether there is a problem that potentially justifies a Rule change. If there is evidence of the exercise of substantial market power, then there is a problem that potentially justifies a Rule change, either in the form of the MEU's proposed Rule or a more preferable Rule.

2.3.2 The likely exercise of substantial market power

As noted above, the Commission considers that regulatory intervention is potentially justified if there is evidence of the exercise *or likely exercise* of substantial market power.

In the next step of this Rule change process, the Commission will assess whether there is evidence of the exercise of substantial market power by any generators in the NEM in the recent past. However, evidence of past conduct does not definitively show whether there is an ongoing problem that justifies regulatory intervention. Accordingly, the Commission will also consider whether there is evidence of any expected changes in market circumstances which may mean that the exercise of substantial market power is either more or less likely in the future.

The Commission will consider whether there is currently any evidence that historical measures of average wholesale spot or contract prices and LRMC are not an accurate reflection of the likely future state of the market and whether there is a risk that generators are likely to exercise substantial market power in the near future (even if they have not done so in the recent past).

2.3.3 'Taking advantage' or 'abuse' of substantial market power

Section 46 of the *Competition and Consumer Act 2010* (Cth) (CCA) prohibits the 'taking advantage' of substantial market power for an anti-competitive purpose. The CCA does not prohibit the mere possession of substantial market power. Market power must be taken advantage of for one of the proscribed anti-competitive purposes.

This 'taking advantage' requirement under the CCA essentially requires evidence that the firm's substantial market power enabled it to act in a way that is different to how a competitive firm would act. Relevant tests include whether a firm without substantial market power would have engaged in the relevant conduct, or whether the conduct was materially facilitated by the firm's substantial market power.[29]

European Union competition law only prohibits the 'abuse' of a dominant position.[30]

The Consultation Paper sought views on whether a similar test of 'taking advantage' or 'abuse' of market power is suitable in the context of this Rule change.

Submissions from the AER, the MEU and most generators, as well as the Frontier report, considered that such a test was not appropriate.

The Commission proposes to adopt the terminology of the 'exercise' of market power that was used in the MEU's proposal and most submissions, rather than the competition law terminology of 'taking advantage' or 'abuse'. The Commission considers that the competition law concepts of 'taking advantage' or 'abuse' of market power are not useful in the context of the MEU's Rule change proposal.

29 See CCA section 46(6A).

30 Article 102 of the Treaty on the Functioning of the European Union (formerly article 82).

2.3.4 The Commission's proposed definition

The Commission proposes that the 'exercise of substantial market power' should be defined as follows.

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

The words 'or is likely to be able' are included to clarify that it is not necessary to wait for ex post evidence of several years of above-LRMC pricing before taking action. If a generator has acted in a way that has caused annual average wholesale spot or contract prices to exceed LRMC and significant barriers to entry indicate that the generator is likely to be able to sustain those prices, then that will constitute evidence of an exercise of substantial market power.

This definition will cover economic withholding of capacity by a generator if it occurs with sufficient frequency to cause annual average spot prices to exceed LRMC, and the generator is likely to be able to sustain those prices. However, the Commission does not consider it necessary or appropriate to specifically address economic withholding in this definition. The definition should be broad enough to encompass economic withholding and any other relevant conduct that has a similar effect on average wholesale spot or contract prices.

As discussed above, as part of its assessment the Commission will also need to assess whether there are any factors that are likely to make the exercise of substantial market power either more or less likely in the future. Accordingly, an assessment of past wholesale spot and contract prices and LRMC is relevant evidence of the exercise of substantial market power, but is not definitive.

2.4 Market definition

2.4.1 Dimensions of the relevant market

In order to assess whether a firm has substantial market power, it is necessary to determine the relevant 'market' in which to make that assessment. A 'market' for these purposes is the field of actual or potential competition between buyers and sellers. As NERA explains in its report, the choice of market is important because it frames the relevant arena of competition so that the real question can be answered - i.e., does any generator have substantial power in that market.

The Commission has adopted the usual competition law approach to defining a market, in which the following dimensions of the market are considered:

- the product (i.e. a description of the relevant good or service);
- the geographic scope of the market;
- the functional level of the market (i.e. the relevant point in the supply chain); and
- the temporal dimension (i.e. relevant timeframe during which to assess whether a firm has substantial market power).

As noted in the Consultation Paper, the approach to market definition should take into account the purpose for which the market is being defined. The NERA report also notes the importance of taking such an approach, with the market definition exercise assisting the objective of assessing whether any generator in the NEM has the ability to exercise substantial market power so as to increase average wholesale prices to such an extent that they exceed LRMC. The temporal and geographic dimensions of the market are the most important for the purposes of this Rule change, as they have a significant impact on which 'prices' are used for the purposes of this assessment.

Based on the recommendations in the NERA report (see section 3.2.3 below), the Commission proposes that the relevant dimensions of the market are as follows:

- *Product:* The relevant product is electrical energy supplied to the wholesale market. The product market does not include derivative instruments such as swaps, futures or options. Derivatives are not separate products, but are simply another means of expressing the price for electricity. As discussed in section 2.2 above, when considering the relevant 'wholesale price', the Commission will have regard to both spot and contract market prices.
- *Geographic:* The Commission has not yet reached a conclusion on whether the entire NEM is a single geographic market, whether each NEM region is a separate market, or whether a combination of two or more regions and the relevant interconnectors constitute a market. Further empirical assessment is required to determine the boundaries of the relevant geographic market or markets. That assessment will conducted after publication of this Directions Paper by applying the test proposed by NERA and discussed below.
- *Functional:* The relevant functional dimension is electricity generation. It does not include subsequent vertical stages of electricity production, such as retailing. Vertical integration of generation and retail is reasonably common and results in some efficiencies, but those efficiencies are not so strong as to preclude the separate provision of those services and there are many generators that are not also retailers.
- *Temporal:* The relevant timeframe is at least one year, and potentially two to three years. This timeframe will be implemented by measuring 'annual average' wholesale prices when assessing whether a generator has substantial market

power, which means that a timeframe of one year is effectively adopted for market definition purposes. However, the second part of the definition of substantial market power set out in section 2.2 above requires those prices to be able to be sustained due to the existence of significant barriers to entry, which will ensure that longer term substitution possibilities over at least two to three years are also considered. The requirement for above-LRMC prices to be sustainable rather than transitory also ensures that the definition of substantial market power only covers conduct that is likely to result in material harm to efficiency in the NEM (and, because electricity is a vital input for most goods and services, material economic harm to the broader economy) and therefore may justify regulatory intervention.

2.4.2 Test to determine the relevant geographic market

The NERA report proposes applying the hypothetical monopolist or 'SSNIP' test commonly used in competition law to determine the boundaries of the relevant geographic market or markets. This test considers whether a hypothetical monopolist in the market could profitably implement a **s**mall but **s**ignificant **n**on-transitory **i**ncrease in **p**rice.

Competition authorities generally apply the SSNIP test by considering whether the hypothetical monopolist could profitably implement a 5-10 per cent price increase and maintain it for one to two years. If such a SSNIP was profitable in a region, i.e. increased revenue from the price rise exceeds lost revenue from substitution to suppliers in other regions, that region is the relevant geographic market. If the SSNIP is not profitable, other regions are added to the market and the test is repeated (with the hypothetical monopolist now assumed to have a monopoly in the expanded region) until the SSNIP becomes profitable.

NERA's proposed application of the SSNIP test starts by assessing whether a hypothetical monopolist of all generating capacity in a NEM region could increase the average regional spot price in that region over a one to two year period by 5 per cent above LRMC. The principal constraint on such a hypothetical monopolist would be from generators located in other NEM regions that are able to supply electricity to that region via the interconnectors. The key question is therefore whether the current level of interconnector capacity allows generation in other NEM regions to act as a sufficiently strong substitute and prevent a hypothetical monopolist from profitably implementing a SSNIP, or whether there would be sufficient trading intervals where the interconnectors are constrained and a hypothetical monopolist could increase prices materially above LRMC.

If such a hypothetical monopolist in a single NEM region could profitably implement a SSNIP, that NEM region will be considered to be a relevant geographic market. If not, other regions will be added and the test repeated to determine the smallest area in which a SSNIP could be profitably implemented. This test will be conducted for each NEM region.

Market definition is simply a tool to assist the analysis, and the approach taken to market definition should not dictate the overall conclusion as to whether a generator has substantial market power. The fact that a potential substitute is outside of the chosen market does not mean that the competitive constraint imposed by that potential substitute is ignored when assessing the existence of substantial market power. For example, if each NEM region is considered to be a separate market, the Commission's assessment of whether a generator in that region is able to sustain prices in that region above LRMC will still consider the potential for existing generators in other regions to enter that market or for the relevant interconnectors to be upgraded within a reasonable timeframe.

2.5 'Tacit collusion'

The MEU's Rule change request raises the issue of potential 'tacit collusion' or 'parallel behaviour' by generators. This behaviour is difficult to define, but in broad terms relates to generators bidding in a coordinated way, but without an express agreement. Such behaviour could potentially allow generators that do not individually have substantial market power to collectively exercise substantial market power.

The Consultation Paper noted that the MEU's proposal does not seek to address such behaviour, and sought submissions on whether 'tacit collusion' or 'coordinated market power' should be considered by the AEMC, or whether the scope should be limited to unilateral market power.

The MEU submitted that it had considered this issue but determined that the increased complexity of addressing an issue that may not occur did not warrant the inclusion of specific rules to address it. The MEU noted that addressing such conduct may be difficult given that the current market design allows for a high degree of price signalling and signalling of bidding intentions.

The report by Dr Darryl Biggar that was provided with the AER submission asserts that there is evidence of the exercise of market power in Queensland involving simultaneous actions by several smaller generators. Biggar states that this conduct raises the question of whether there is some form of explicit or implicit arrangement between the relevant generators.[31]

The Energy Action Group supported addressing tacit collusion, but noted that there has been limited success in detecting and taking action against such behaviour.[32] The Frontier report argued that the threat of tacit collusion is poorly justified, and if it was an issue it should continue to be dealt with by the CCA. Frontier argued that there should not be a separate rule for what constitutes collusive behaviour in the NEM compared to elsewhere in the Australian economy.[33]

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31 Biggar, *The theory and practice of the exercise of market power in the Australian NEM*, 26 April 2011, p70.

32 Energy Action Group submission, p6.

33 Frontier Economics, *Response to AEMC consultation paper*, June 2011, p39.

The CCA prevents contracts, arrangements or understandings that have the purpose, effect or likely effect of substantially lessening competition, or that contain a 'cartel provision'.[34] An enforceable agreement is not required. An 'arrangement' or 'understanding' can extend to anything where there is a meeting of the minds and a commitment to take certain action, and can be inferred from conduct.

There has been considerable recent debate regarding the application of the CCA to tacit collusion. In particular, in 2009 the Assistant Treasurer and Minister for Competition Policy and Consumer Affairs published a Consultation Paper seeking submissions on the adequacy of the current definition of an 'understanding' under the *Trade Practices Act 1974* (as the CCA was then called).[35] The Consultation Paper sought submissions regarding an extended definition of an 'understanding' that was proposed by the Australian Competition and Consumer Commission (ACCC) and which would be more likely to cover tacit collusion.

This proposal was ultimately not implemented. However, both the Commonwealth Government and the Opposition have introduced CCA amendment Bills to address 'price signalling', in response to concerns regarding potential tacit collusion or parallel behaviour by banks.[36] If enacted, the Government's Bill is intended to initially only apply to banks, but can be extended by regulations to apply to any other goods or services.

The Commission proposes that it is not appropriate to address 'tacit collusion' or 'coordinated market power' as part of this Rule change process. Instead, the issues that the Commission will consider as part of this process, and any resulting Rule changes, will be limited to unilateral market power issues.

The Commission considers that this approach is appropriate because:

- the MEU's proposed Rule change does not address tacit collusion;
- it is difficult to identify and prove tacit collusion and distinguish it from ordinary competitive conduct, particularly in the NEM with its high degree of price transparency; and
- tacit collusion is more appropriately addressed by the ACCC under the CCA. If the current CCA provisions are not considered to be adequate to address any concerns regarding tacit collusion amongst participants in the NEM, then it is

34 CCA, sections 44ZZRF, 44ZZRG, 44ZZRJ, 44ZZRK and 45. Section 44ZZRD defines a 'cartel provision'. In general terms, cartel provisions include provisions of a contract, arrangement or understanding between competitors that have the purpose, effect or likely effect of fixing, controlling or maintaining prices for goods or services. Making or giving effect to a contract, arrangement or understanding containing a cartel provision is a criminal offence in certain circumstances.

35 Treasury, *Discussion Paper - Meaning of 'Understanding' in the Trade Practices Act 1974*, 8 January 2009.

36 *Competition and Consumer Amendment Bill (No. 1) 2011* (the Government's Bill); *Competition and Consumer (Price Signalling) Amendment Bill 2010* (the Opposition's Bill).

more appropriate for the ACCC or Treasury to consider whether further reforms to the CCA are warranted.

3 Reasons for the Commission's proposed approach

3.1 Overview

This chapter explains in detail the Commission's reasons for its proposed approach set out in chapter 2.

The Commission's decision whether to make the MEU's proposed Rule will be based on whether it is likely to contribute to the achievement of the NEO. As explained in several parts of chapter 2, the NEO has guided the Commission's proposed approach in this paper, such as the Commission's proposal to distinguish between substantial market power and transient pricing power. Additional issues related to the application of the NEO are discussed in this chapter 3.

The Commission's approach in this paper has also been informed by consideration of the following matters, which are discussed in this chapter 3:

- the NERA report and peer review report;
- stakeholders' submissions, including the report by Frontier Economics that was commissioned by the NEM Generators' Group[37] (Frontier report) and the paper by Dr Darryl Biggar that was commissioned by the AER (Biggar report);
- economic literature on market power;
- competition law literature and case law regarding market power;
- approaches taken by international energy regulators to market power issues; and
- previous AEMC comments on market power issues.

The following tables set out a high-level comparison between the Commission's proposed approach and the approaches taken in submissions,[38] competition law,[39] the report by the United Kingdom Competition Commission (UKCC) into proposed market abuse licence conditions (which the Commission considers to be the most relevant international regulatory precedent),[40] and the MEU's proposal.

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37 The members of the NEM Generators' Group are AGL, Alinta Energy, CS Energy, Delta Electricity, Hydro Tasmania, InterGen, International Power, Loy Yang Marketing Management Company (LYMMCo), Macquarie Generation, Snowy Hydro, Tarong Energy and TRUenergy.

38 The 'Generator submissions' column is based on submissions from the NEM Generators' Group, Hydro Tasmania, Origin, AGL, International Power, TRUenergy and the Energy Supply Association of Australia (ESAA). Those submitters used different terms and proposed slightly different definitions, but with similar meanings. Submissions from other stakeholders did not address these issues in detail, and are discussed in section 3.3.5 below.

39 Table 3.1 is based on section 46 of the CCA. Tables 3.2 and 3.3 are based on *Australian Gas Light Company v ACCC (No 3)* [2003] FCA 1525.

40 United Kingdom Competition Commission, *AES and British Energy, A report on references made under section 12 of the Electricity Act 1989*, December 2000.

Table 3.1 What type of market power potentially justifies regulatory intervention in the context of the NEM?

AEMC approach	NERA report	Frontier report	Generator submissions	Biggar report	MEU proposal	Competition law	UKCC inquiry
Only substantial market power	Only substantial market power	Only enduring market power	Only enduring, sustained or substantial market power	Any market power	Any market power[41]	Only substantial market power	Only substantial market power

Table 3.2 What is the appropriate definition of market power?

AEMC approach	NERA report	Frontier report	Generator submissions	Biggar report	MEU proposal	Competition law	UKCC inquiry
The ability to increase annual average wholesale prices above LRMC, and sustain prices at that level due to significant barriers to entry	The ability to increase average spot prices above LRMC, and significant barriers to entry enable it to sustain average prices at that level	The ability to act without effective constraint in the long run and earn long run economic profits above LRMC	The ability to sustainably raise average spot prices above LRMC in the long term, and absence of barriers to entry	The ability to influence the spot price so that the generator is dispatched at a price that exceeds its SRMC	Maximum regional demand cannot be met without dispatch of the generator	*AGL v ACCC:* The ongoing ability to increase prices without constraint from competition. An ability to create temporary spot price spikes by opportunistic bidding is not enough	The ability, acting independently, to raise prices consistently and profitably above competitive levels

41 Based on the MEU's response to the NEM Generators' Group's submission. The MEU's proposal did not address this issue.

Table 3.3 What is the relevant 'market'?

AEMC approach	NERA report	Frontier report	Generator submissions	Biggar report	MEU proposal	Competition law	UKCC inquiry
Geographic: further analysis required - adopt NERA's proposed test	*Geographic:* further analysis required - test proposed based on hypothetical monopolist or 'SSNIP' test	*Geographic:* uncertain - depends on interconnector constraints	*Geographic:* some submitters consider entire NEM is a single market; some submitters suggest a single region plus the relevant interconnectors may be a market	*Geographic:* does not expressly address; analysis implies each NEM region is a separate market	*Geographic:* does not address; approach implies each NEM region is a separate market	*Geographic: AGL v ACCC:* entire NEM	*Geographic:* does not address
Timeframe: at least 1 year	*Timeframe:* at least 1 year	*Timeframe:* uncertain, but substantially longer than 30 minutes	*Timeframe:* long term, some submitters suggest at least 1 year	*Timeframe:* does not expressly address; analysis implies timeframe is a 5 minute dispatch interval[42]	*Timeframe:* does not address; approach implies timeframe is 30 minutes	*Timeframe: AGL v ACCC:* long term	*Timeframe:* long term, probably 1 year

42 The AER's submission did not expressly set out a view on market definition. However, it stated that market power is concerning when it significantly affects average prices, and suggested using quarterly average prices. This comment implies that three months may be the appropriate timeframe.

3.2 The NERA report

3.2.1 Workable competition and market power

The NERA report explains the concepts of perfect competition and workable competition. Perfect competition serves as a useful reference point, but is seldom (if ever) seen in real markets. Sellers are rarely pure price-takers, parties are almost never perfectly informed and there are almost always some barriers to entry or expansion.

NERA explains that workable competition is a more useful benchmark. In economic terms, the main objective of price cap regulation (which is in essence what the MEU proposal involves) is to promote outcomes consistent with workable competition, if the market is not workably competitive without regulation.

When competition is workable, firms will often adjust their prices to reflect changes in market conditions and the underlying trend in SRMC. The NERA report contains a detailed discussion of the calculation of SRMC and LRMC. NERA explains that SRMC does not simply reflect costs such as fuel costs, but also reflects the costs of shortages faced by consumers. SRMC therefore varies and can increase dramatically in periods of scarcity. LRMC also varies over time, as discussed in section 2.2.2 above.

It is common for firms to increase their prices when supply is scarce and reduce them when it is plentiful. For example, prices for hotel rooms rise significantly when demand is high. It is only by increasing their prices when scarcity emerges that firms are able to recover their fixed costs. However, if there is workable competition, prices that are significantly and persistently above LRMC should prompt new entry or expansion, which will reduce prices to LRMC in the long term.

Accordingly, under workable competition:

- at any particular point in time, prices may deviate from underlying costs, but rivalry between suppliers should drive the market towards efficient prices, outputs and costs over time; and
- firms should not be able to earn profits that are persistently above their long run costs.

Substantial market power is the antithesis of workable competition. NERA considers that a firm has substantial market power only if:

- it has the ability to sustain prices above LRMC (including an appropriate return on capital and accounting for risk); and
- it is insulated from competition by significant barriers to entry that enable it to sustain prices at that level.

Put another way, a firm has substantial market power if it has the ability to sustain prices that should attract new investment because they exceed LRMC, but no new investment occurs because it is prevented or delayed due to barriers to entry.

NERA considers that regulation should focus on addressing the existence and exercise of substantial market power.[43] It should not seek to prevent what NERA refers to as 'temporary pricing power', which can enable firms to price above cost for short periods. Temporary pricing power is a common feature of workably competitive markets.

3.2.2 NERA's proposed definition of 'substantial market power' in the context of the NEM

NERA considers that the general concepts of workable competition and market power described above are equally applicable to electricity wholesale markets such as the NEM, despite the fact that those markets have some unique characteristics.

Applying the above general definition of substantial market power to the specific circumstances of the NEM, NERA's proposed definition is that a generator in the NEM has substantial market power if:

- it has the ability to increase average spot prices to such an extent and with sufficient frequency that they exceed the LRMC of adding capacity; and
- it is insulated from the forces of competition due to significant barriers to entry and expansion that enable it to sustain average prices at that level.

Periods of high prices caused by strategic bidding behaviour by generators (such as 'economic withholding' as described by the MEU) are relevant to this assessment. However, they only constitute substantial market power if they have a sustained effect on average spot prices that is likely to cause them to exceed LRMC over the long term.

The NERA report contains a detailed discussion of the calculation of LRMC, which is discussed in section 2.2.2 above.

3.2.3 Market definition

NERA's conclusions on each dimension of market definition are:

- *Temporal:* The relevant timeframe is likely to be at least one year, and potentially two to three years. A shorter timeframe risks overlooking relevant economic forces and mistaking temporary pricing power for substantial market power. This longer timeframe also allows the 'entire demand cycle' to be accounted for so that a meaningful comparison can be made between prices and LRMC.

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43 The Commission notes that NERA was not asked to advise on the application of the Rule making test in the NEL. The Commission may only make a Rule if it is likely to contribute to the achievement of the NEO.

- *Product:* The relevant product is electricity energy supplied to the wholesale market. There is no need to include derivative instruments in this market, as the spot and contract markets are simply different means of expressing the price for the same underlying product (electricity) and derivatives are not a separate product for these purposes.
- *Functional:* The functional dimension is confined to electricity generation and does not include subsequent vertical stages of production such as retailing. Some synergies arise from vertical integration of generation and retailing, but they are not so overwhelming as to preclude separate provision of those functions and mean that they fall within the same market.
- *Geographic:* The relevant geographic dimension cannot be determined without further empirical evidence. NERA proposes a test to determine the extent of the geographic market, which is outlined in section 2.4.2 above. NERA considers that there is a 'reasonable probability' that this test will reveal that in many regions the relevant geographic market is a single NEM region. However, further empirical analysis is required to determine whether that is the case. The Commission will engage consultants to undertake this analysis after publication of this Directions Paper.

3.2.4 Peer review by Professors Joshua Gans and Stephen King

Professors Joshua Gans and Stephen King peer reviewed NERA's report. Their peer review report concluded that:[44]

> "Overall, we find that NERA have appropriately described the state of the economics and law literature on market power as it pertains to wholesale electricity generation."

Noting that the NERA report only related to the first step in the Commission's consideration of the MEU's proposal, the peer review report recommended that the following matters be considered by the Commission in the next stage of the process when assessing if there is evidence of the exercise of substantial market power:

- a range of potential additional indicators of market power should also be considered because "the relationship between transitory and substantial market power is more subtle in electricity markets than in many other markets";[45]
- further consideration should be given to the existence and importance of strategic barriers to entry; and
- further investigation should be undertaken into the relationship between spot market behaviour and forward contracts, which is important to understand generators' incentives to exercise market power.

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44 Core Research, *Re: Review of NERA Report dated 22nd June 2011 (Final Report)* , 24 July 2011, p1.

45 Core Research, *Re: Review of NERA Report dated 22nd June 2011 (Final Report)* , 24 July 2011, p2.

3.3 Submitters' views

3.3.1 The MEU's proposal

The MEU's draft Rule does not contain a definition of market power and instead provides that the AER will issue guidelines and determine which generators have market power.

However, in its Rule change request the MEU states that a generator has market power if "the maximum regional demand at any time cannot be met without dispatch of that generator".[46] The MEU notes that this definition could result in several generators having market power in a region, and that the list of generators with market power is likely to change from year to year.

The MEU's Rule change request attached two reports from the United Kingdom consultancy firm EEE Ltd, which the MEU stated support the Rule change proposal. However, the Commission notes that these reports propose a definition of market power that is significantly different from the definition set out in the MEU's Rule change request. EEE Ltd defines market power as:[47]

> "[T]he ability of either an individual supplier or a group of suppliers acting in a coordinated manner (which may be explicit or tacit) to profitably maintain prices above competitive levels for a significant period of time. "

This definition is closer to the definition proposed in the NERA report, and the definitions proposed in generators' submissions and the Frontier report.

The MEU also made submissions on the Consultation Paper, which are discussed in section 3.3.3 below.

3.3.2 Generators' submissions and the Frontier report

Submissions addressing the appropriate definition of market power were received from the NEM Generators' Group, Hydro Tasmania, Origin, AGL, International Power and TRUenergy, as well as the ESAA. These generators and the ESAA proposed similar approaches in relation to the appropriate definition of market power. The NEM Generators' Group submission attached a report by Frontier Economics.[48]

The generators, the ESAA and the Frontier report submitted that regulatory intervention is only justified for 'enduring', 'sustained' or 'substantial' market power.[49] For example, the NEM Generators' Group submitted that market power is of most

46 MEU Rule change request, p32.

47 EEE Ltd, *Generator Market Power in the Electricity Supply Industry*, October 2008, p5.

48 Frontier Economics, *Response to AEMC consultation paper*, June 2011.

49 Although different terms were used by different submitters, the stated meanings of those terms were similar.

concern where it is enduring, which means that "natural market forces will not serve to correct short-term increases of price above cost".[50]

Most of these submitters and the Frontier report distinguished substantial or enduring market power from 'transient' market power. This distinction was primarily based on competition law cases and literature, and several generators extensively quoted CCA cases regarding market power. 'Transient' market power was generally defined along the lines of an ability to occasionally bid above SRMC and create temporary price spikes.[51]

AGL, TRUenergy, Origin Energy, International Power and the ESAA submitted that 'transient market power' is an essential feature of an energy-only wholesale electricity market. For example, Origin Energy submitted that:[52]

> "An inherent and necessary feature of an efficient energy-only market is the ability of the marginal generator to on occasion bid strategically (i.e. above SRMC) to recover its fixed costs."

The Frontier report similarly stated that:[53]

> "The NEM was designed as an energy-only market in which all plant would recover their variable and fixed costs through the spot market and derivatives contracts settled against spot market outcomes. For this to happen, the spot price must be able to at least occasionally rise above the SRMC of the most expensive plant in the market to enable that plant (typically a distillate or gas-fired peaking plant) to recover its fixed costs."

Several generators submitted that any attempt to remove transient market power would make the NEM more like a capacity market and an additional mechanism to recover efficient fixed costs would be required.[54] The Frontier report stated that a significantly increased MPC would be required to compensate for fixed costs if bids were capped at SRMC.[55]

These submitters and the Frontier report acknowledged that market power would be a concern if it is 'substantial' or 'enduring'. However, they submitted that there is no evidence of substantial or enduring market power.

50 NEM Generators' Group submission, p2.

51 For example, see the AGL submission, p23.

52 Origin Energy submission, p2.

53 Frontier Economics, *Response to AEMC consultation paper*, June 2011, p18.

54 For example, see the Origin Energy submission, p3.

55 Frontier Economics, *Response to AEMC consultation paper*, June 2011, p28.

The Frontier report and AGL submission detail the potential efficiency impacts of substantial or enduring market power, which include the following.[56]

- *Allocative efficiency:* The Frontier report stated that prices that are persistently above LRMC may result in a deadweight loss due to sub-optimal levels of electricity consumption and production. Frontier suggested that this loss may be low in the short-term due to the highly inelastic nature of electricity demand, and short term price spikes are unlikely to result in material inefficiency, but allocative inefficiency may emerge over longer timeframes.

- *Productive efficiency:* The Frontier report explained that if a generator bids above its SRMC or withholds some of its available capacity, more expensive generation may be required to operate in its place. If this occurs, the resource cost of serving load will increase, resulting in lost productive efficiency.

- *Dynamic efficiency:* The Frontier report and AGL submission did not discuss the dynamic efficiency effects of substantial or enduring market power. Instead they focussed on the dynamic inefficiency that they considered would arise if the Rule change sought to prevent 'transient market power', which they considered would distort investment incentives and result in an inefficient level of generation investment and inefficient mix of generation types.

- *Other potential efficiency impacts:* The Frontier report also stated that prices that are inefficiently high for an enduring period may have implications for retail markets and the market for hedge contracts. Substantial or enduing market power may therefore ultimately affect the timing and nature of entry into the retail market and lead to higher retail prices paid by consumers.

Generators' proposed definitions of substantial or enduring market power

Each of the generators, the ESAA and the Frontier report proposed similar definitions of substantial or enduring market power. The common features of these definitions were an ability to price above a long run measure of cost and to maintain that price for a sustained period. Each definition has similarities to NERA's proposed definition.

The proposed definitions are summarised in the following table.

Table 3.4 Proposed definitions of substantial or enduring market power

Submission/report	Summary of proposed definition
Frontier report	The ability to act without competitive constraint in the long run such that it is able to earn long run economic profits by sustaining wholesale prices above its LRMC

56 Frontier Economics, *Response to AEMC consultation paper*, June 2011, pp14-26. AGL submission, pp18-20.

Submission/report	Summary of proposed definition
Hydro Tasmania	The ability to profitably raise prices above the competitive level (being the long run efficient supply cost) and sustain prices at that level beyond the timeframe needed for new entry
Origin Energy	The ability to consistently recover revenue in excess of LRMC, with no new entry
AGL	The ability to earn economic profits in the long run without those profits being reined in by new entry or expansion
International Power	The ability to behave persistently in a manner unconstrained by the conduct of competitors, including the power to raise prices above competitive levels in a sustainable way
ESAA	Sustainably raising prices above LRMC

LYMMCo and TRUenergy submitted that the existing CCA definition of substantial market power (see section 3.5 below) should be adopted.[57]

Market definition

The generators did not have consistent views on market definition in their submissions.

In relation to the temporal dimension, most generators submitted that market definition must be based on a long term view and assess average prices over 1 year or more.

The Frontier report and several generators' submissions acknowledged that the geographic dimension of the market is unclear and is likely to depend on the extent of interconnector constraints.

Submissions by Origin Energy and AGL quoted French J's decision in *AGL v ACCC* that the entire NEM should be treated as a single market in the context of that case (see section 3.5 below).[58] However, International Power noted that the ACCC has declined to adopt French J's approach, and quoted previous ACCC decisions that define the relevant market as a single NEM region plus the relevant interconnectors.[59]

3.3.3 The MEU's submissions

The MEU provided a submission on the Consultation Paper, but that submission did not elaborate on the appropriate definition of market power.

57 LYMMCo submission, p2. TRUenergy submission, p4.

58 Origin Energy submission, p10. AGL submission p7.

59 International Power submission, pp19-20.

The MEU also submitted a paper responding to the NEM Generators' Group submission and the Frontier report. That paper stated that there are many areas where the MEU and Frontier agree on the issue of market power, but the major difference relates to the meaning of 'enduring' market power used by Frontier. The MEU's paper stated:[60]

> “The MEU has a different construct as to what is implied by the term "enduring", and the MEU construct is one used by regulators worldwide. If, under a certain set of conditions, the same party exercises its market power in the same way and does this on many occasions, then the exercise is seen as systemic. A systemic issue is enduring in that it can occur repeatedly. Thus, enduring does not mean exclusively what occurs continuously over a long period of time, as Frontier seems to imply, but one which can occur repeatedly by one or more parties in one or more locations. A systemic issue is also enduring and this is what is being seen in the NEM.”

However, the Commission notes that the Frontier report does not require conduct to be continuous. The Frontier report refers to market power being of concern if a firm can 'persistently' behave in a manner different from how it would behave in a competitive market. The Commission proposes a similar approach in this paper.

The key difference between the Commission's proposed approach and the MEU's comment above is that the Commission's approach requires a comparison between average prices and LRMC. Price spikes caused by economic withholding can constitute evidence of substantial market power under the Commission's approach, but only if they cause annual average wholesale prices to exceed LRMC.

3.3.4 The AER's submission and the Biggar report

The AER's submission attached three consultant reports, including a report from Dr Darryl Biggar addressing the definition of market power.[61] The AER's submission stated that "[w]hile the consultants' reports do not necessarily represent the views of the AER, given that the issues they discuss are germane to the AEMC consultation paper, it has been decided to make them publicly available."[62] The AER submission does not propose a definition of market power.

The Biggar report adopts an approach to the definition of market power that contrasts with the NERA report, the Frontier report and generators' submissions.

The Biggar report notes that there are a range of definitions of market power in economics literature. The definition that Biggar adopts is that a firm has market power

60 MEU, *NEM Generators' Group submission of 29 June 2011, A Response by The Major Energy Users Inc*, July 2011, p11

61 Biggar, *The theory and practice of the exercise of market power in the Australian NEM*, 26 April 2011.

62 AER submission, p2.

"if it can, by changing its output, affect the wholesale market price that it is paid", i.e. it is not a pure price-taker.[63]

Biggar discusses generator bidding and notes that there are some occasions when a generator's offer curve may not match its SRMC curve for technical or practical reasons. However, Biggar considers that generators' offers should generally reflect their SRMC curves unless they are exercising market power.

Biggar adopts the following definition of the exercise of market power:[64]

> "A generator can be said to exercise market power when it systematically submits an offer curve which departs from its true, underlying, short-run marginal cost curve in order to influence the wholesale spot price it is paid and is therefore dispatched to a price-quantity combination which does not fall on its short-run marginal cost curve."

The Biggar report does not expressly address market definition. However, this definition of market power appears to imply that the relevant timeframe is a single dispatch interval. Biggar's analysis in later chapters of his report is undertaken on a regional basis and considers the effects of generator bidding behaviour on regional spot prices, which appears to imply that each NEM region should be treated as a separate geographic market.

The approach adopted in the Biggar report differs from the approach taken in the NERA and Frontier reports in the following key respects:

- Biggar defines 'market power', while NERA defines 'substantial market power' and Frontier defines 'enduring market power'.
- As a result, the Biggar report does not distinguish between 'substantial' or 'enduring' market power on one hand and 'transient market power' or 'temporary pricing power' on the other hand.
- The Biggar report appears to equate market power with the absence of perfect competition, while the NERA and Frontier reports equate substantial or enduring market power with the absence of workable competition.
- Biggar's definition of market power does not include a requirement that the generator's ability to influence the wholesale price is persistent and affects average prices.[65] Biggar's definition refers to a generator 'systematically' submitting an offer curve that departs from its SRMC curve, but his application

63 Biggar, *The theory and practice of the exercise of market power in the Australian NEM*, 26 April 2011, p3.

64 Ibid, p5.

65 For example, the Biggar report does not address the effects of negative spot prices and implies that a generator should not be able to bid above its SRMC in some trading intervals even if spot prices are negative during other trading intervals. The AER cover submission appears to take a different approach and states that "the exercise of market power through economic withholding is concerning when it significantly affects average prices", and suggests measuring the effect on quarterly average prices - see AER submission, p4.

of this definition in his paper appears to treat price spikes during a single trading interval as an exercise of market power.

- The relevant cost measure in Biggar's definition is SRMC. The Biggar report does not explain how Biggar defines SRMC.

The Biggar report acknowledges that some commentators argue that if all generators offered their capacity at their SRMC then some generators would be unable to recover their fixed costs and that some market power is therefore necessary. However, Biggar rejects this argument. Instead, he considers that:

- generators with low SRMCs will be able to earn some contribution to their fixed costs whenever the spot price (set by the marginal generator) is above their SRMC;

- in an energy-only market, spot prices must increase above the variable cost of the most expensive generating unit at certain times, otherwise that unit will not recover its fixed costs;

- however, prices could exceed the marginal generator's SRMC due to a demand side bid or a supply shortage resulting in involuntary load shedding, and market power is not necessary to recover fixed costs;

- it is acknowledged that demand side bids are rare in practice and the required amount of load shedding may be politically unsustainable, so the marginal generator may not be able to recover its fixed costs in practice, but if that is the case then there are other potential solutions such as increasing the MPC or introducing a reserve capacity mechanism; and

- if average prices do not cover total costs then this is an indication that some capacity should be retired from the market, which would increase prices, and a process of entry and exit will result in a long term equilibrium where all generators recover exactly their total costs.[66]

As the Biggar report appears to acknowledge, the Commission considers that a Rule that sought to prevent the exercise of market power as Biggar defines it would either require other market design changes to allow generators an opportunity to recover their efficient fixed costs (such as a higher MPC or a capacity mechanism) or would result in the early retirement of some generation capacity and more periods of supply shortages.

The Commission does not consider that either of those outcomes is appropriate.

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66 Biggar, *The theory and practice of the exercise of market power in the Australian NEM*, 26 April 2011, pp23-24.

3.3.5 Other submissions

Submissions supporting the Rule change proposal, or supporting further AEMC investigation into market power issues and potential alternative solutions, were received from Kimberly-Clark Australia, Australian Paper, the Energy Users Association of Australia (EUAA), the Energy Action Group and Aurora Energy.

Those submissions did not address in detail how market power should be defined, or related issues such as market definition. The Energy Action Group stated that the MEU's proposed definition of market power is appropriate.[67] Aurora Energy stated that the appropriate definition of market was the potential definition that was set out in the AEMC's Consultation Paper - i.e. the ability to raise prices above a level that is considered competitive for a sustained period, due to the absence of competition and therefore any constraint on behaviour.[68]

Submissions were also received from the Australian Energy Market Operator (AEMO), the South Australian Department for Transport, Energy and Infrastructure (DTEI), Barclays Capital and the Australian Financial Markets Association (AFMA). None of these submissions proposed definitions of market power.

DTEI submitted that a key question is whether any generator market power that may exist is a structural problem (in the sense of it being a persistent or ongoing issue) or a transitory issue related to a generator's contract position. DTEI proposed that if it is a transitory issue, it may be more appropriate to leave it to competition and the existing provisions in the CCA to minimise generators' ability to exercise market power over time.

The Commission's approach in this Directions Paper recognises the importance of distinguishing between transitory and ongoing market power issues, consistent with the approach proposed by DTEI.

3.4 Key economic literature

This section discusses selected leading economic articles on market power in electricity markets. A comprehensive literature review is beyond the scope of this Directions Paper, and only selected key articles that influenced the Commission's approach are outlined in this section.

3.4.1 The standard textbook definition of 'market power'

Economic textbooks often describe market power as the ability to profitably price above the competitive level. Market power is often contrasted with perfect competition. In the textbook perfectly competitive market, all firms price at marginal cost, while a firm has market power if it is able to set its price above marginal cost

67 Energy Action Group submission, p3.

68 Aurora Energy submission, p6.

without making a loss.[69] Most textbooks and many articles do not expressly distinguish between SRMC and LRMC, but appear to use SRMC.

This standard definition of market power is largely adopted by Dr Darryl Biggar in his report for the AER and in previous articles, where he defines a generator as having market power if it is able to change the market price by increasing its offer price or reducing its output.[70] A similar approach is taken by Professor Severin Borenstein, who considers that a generator exercises market power if it reduces its output or raises its offer price in order to change the market price.[71] Borenstein contrasts such conduct with that of a competitive price-taker, which would offer all of its output at its marginal cost.

3.4.2 The 'missing money problem'

Borenstein and Biggar expressly reject the argument that generators need to be able to bid above their SRMC and therefore exercise some market power (as they define it) in order to recover their fixed costs. They consider that the fact that each generator is paid the market clearing price, which exceeds most generators' SRMCs, allows most generators to recover at least some of their fixed costs. Borenstein explains that if this difference is less than the firm's fixed costs, it will eventually shut down, which will increase the industry supply curve and the market price, and a process of entry and exit will allow all efficient generators to recover their fixed costs in the long run.[72]

However, Borenstein's argument is expressly based on the existence of a reserve capacity market. In response to concerns that the marginal generator will never be able to recover its fixed costs, he notes that this is the reason why electricity markets have reserve markets, and the highest cost generator will also be receiving revenues in the reserve market to cover its fixed costs.[73]

In contrast, a number of economists argue that an energy-only market cannot be effective and sustainable if generators are not able to bid above their SRMC at least occasionally in order to recover their fixed costs. This issue is an application of what is often referred to as the 'missing money problem'.

Professor Bill Hogan describes the missing money problem generally as follows:[74]

> “The missing money problem arises when occasional market price increases are limited by administrative actions such as price caps. By preventing prices from reaching high levels during times of relative

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69 For example, see Carlton and Perloff, *Modern Industrial Organisation*, 4th edition, 2005, p93.

70 Biggar, *The exercise of market power in the Australian National Electricity Market*, September 2005, pp1-2.

71 Borenstein, *Understanding Competitive Pricing and Market Power in Wholesale Electricity Markets*, The Electricity Journal, July 2000, pp49-57.

72 Ibid, p51.

73 Ibid, p57.

74 Hogan, *On an "Energy Only" Electricity Market Design for Resource Adequacy*, 23 September 2005, p1.

> scarcity, these administrative actions reduce the payments that could be applied towards the fixed operating costs of existing generation plants and the investment costs of new plants. The resulting missing money reduces the incentives to maintain plant or build new generation facilities."

Professor Paul Joskow considers that the missing money problem would be likely to arise if all generators were forced by market power mitigation measures to bid at SRMC. He states that:[75]

> "[I]n order to attract investment and balance supply and demand with traditional levels of reliability, competitive wholesale markets must produce "rents" over and above the short-run marginal cost of operating generating facilities in order to provide compensation for the capital costs of these facilities."

In theory, this problem would not arise if there were the perfect number of periods where demand exceeded supply and the market price was set to the MPC so that returns during these periods of scarcity exactly covered each generator's efficient fixed costs. However, Joskow explains that this outcome is highly unlikely in real world wholesale energy markets.[76]

Professor Timothy Brennan explains the potential damage that could arise if market power was defined as pricing above SRMC (or average variable cost, which is often used if SRMC is not available):[77]

> "The need to recover fixed costs can lead to prices substantially above average variable costs in peak periods... Under a [price vs average variable cost] standard for competitive pricing no generator would be built; in any market, competitive or not, even the most expensive generator has to expect that prices will, on average, cover not just its variable costs but also its fixed capital costs...
>
> Under such a policy, in the long run no firm would build a peaking plant. Keeping marginal firms from earning revenues in excess of their average variable costs would encourage present suppliers to leave the market and discourage entry needed to provide power during peak periods... Moreover, through a kind of "domino effect", no firm would enter the industry at all, if the firm with the highest operating cost were not allowed to recover its capital expense."

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75 Joskow, *Competitive Electricity Markets and Investment in New Generating Capacity*, May 2006, p26.

76 Ibid, pp26-31.

77 Brennan, *Mismeasuring Electricity Market Power*, Regulation, Spring 2003, p60. The Commission notes that average variable cost is not equivalent to SRMC.

3.4.3 Substantial market power

This need to recover fixed costs has contributed to a number of economists concluding that regulatory intervention is not justified for 'market power' as defined in the simple definition in section 3.4.1 above - i.e. whenever price exceeds SRMC - and that something more is required to justify regulation. Economists also generally acknowledge that under this simple definition almost every firm has some market power, and 'substantial market power' is therefore a more relevant test.[78]

For example, Tamaschke et al assessed whether there was evidence of market power in Queensland between 1999 and 2002.[79] Based on a review of economics, competition law and strategic management literature, they concluded that "not all market power justifies intervention" and that action is only appropriate if there is evidence that market power is significant and durable. They considered that the relevant test was 'significant market power', which required that a generator must be able to sustain prices greater than long run average costs.[80]

Several other economists have recommended tests based on long run prices and costs to assess whether there is 'significant' or 'substantial' market power in electricity markets. For example:

- Professor David Newbery defines significant market power as the "ability to raise prices appreciably above the competitive level for at least some hours so that average price over the year exceeds the cost at which new entry is profitable".[81]
- Larry Ruff adopts LRMC as the relevant cost measure and proposes a similar test, stating that "the fact that spot prices are higher than LRMC during peak or scarcity periods does not mean that they are "too" high during those periods or overall... Prices are too high overall only if spot prices averaged over a period in which new entry is possible are above LRMC."[82]

Newbery also recognises that market power is not simply the opposite of perfect competition and that perfect competition is not an appropriate benchmark. He states:[83]

> “Truly competitive markets for electricity are probably either not attainable or not sustainable... In order to cover the fixed costs and make it worthwhile retaining some marginal plant to supply reserves, prices will

78 For example, see Carlton and Perloff, *Modern Industrial Organisation*, 4th edition, 2005, p642.

79 Tamaschke, Docwra and Stillman, *Measuring market power in electricity generation: A long-term perspective using a programming model*, Energy Economics 27 (2005), pp317-335. The authors concluded that there was evidence of significant market power with prices exceeding long run average costs in 1999, 2000 and 2002 but not 2001.

80 Ibid, pp325-326.

81 Newbery, *Mitigating market power in electricity networks*, 18 May 2002, p21.

82 Ruff, *Market Power Mitigation: Principles and Practice*, 14 November 2002, p6.

83 Newbery, *Mitigating market power in electricity networks*, 18 May 2002, p11.

either have to be very high some fraction of the time, or these fixed costs will have to be paid by some form of capacity payment."

Even Borenstein, who adopts a very narrow definition of market power, accepts that not all forms of market power justify regulatory intervention. Borenstein states:[84]

> "The diagnosis and measurement of market power is just one step in the process of developing sound public policy in a market. When market power is found to be present, the logical next step is to examine the likely persistence of that market power. In markets with low barriers to entry, market power is likely to be quite transitory... In that case, the best government policy would probably be to let these forces do their work undermining the existing market power."

Ruff also cautions against regulators intervening too readily in relation to perceived market power to try to achieve what he describes as "Goldilocks prices: Not too high, not too low, but juuuust right".[85] He states that "[g]iven the difficultly of knowing when a price is too high, the high costs and risks of trying to reduce it, and the low payoff even if it is done well, it is usually best not to try unless there is clear evidence of harm to the larger market."[86]

This approach is not universally adopted and some economists, most notably Professor Frank Wolak,[87] argue for narrower definitions of market power that would incorporate transient pricing power. However, the Commission considers that the approach proposed in the other articles discussed above is more appropriate in the context of the NEM.

3.5 Competition law

Several of the economists discussed above draw from competition law in reaching their view that only substantial market power justifies regulatory intervention. Many generators also referred to competition law cases to support their submissions.

Section 46 of the CCA prohibits a corporation taking advantage of "a substantial degree of power in a market" for an anti-competitive purpose.

Miller defines substantial market power under the CCA as "the power to behave in a market in a manner that is not constrained by competitors in that market for a sustained period".[88]

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84 Borenstein, *Understanding Competitive Pricing and Market Power in Wholesale Electricity Markets*, The Electricity Journal, July 2000, p57.

85 Ruff, *Market Power Mitigation: Principles and Practice*, 14 November 2002, p6.

86 Ibid, p7.

87 For example, see Wolak, *Unilateral Market Power in Wholesale Electricity Markets*, CESifo DICE Report 2/2006, February 2006; and Wolak, *An Assessment of the performance of the New Zealand Wholesale Electricity Market*, Report for the New Zealand Commerce Commission, 19 May 2009.

88 Miller, *Millers Australian Competition and Consumer Law Annotated*, 33rd edition, 2011, p669.

Several submitters quoted the High Court's definition of market power in *QWI v BHP*:[89]

> "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."

Several commentators, and some submitters, emphasise the words "in due time" in this quote. Corones states "[t]he words 'in due time' are significant. The existence of market power is to be tested not by reference to any short term influence on price, but rather by reference to the longer run."[90] The Courts have stated that market power "is not concerned with a one-second snapshot of economic activity" and must be "judged by reference to persistent rather than temporary conditions".[91]

In the recent *ACCC v Metcash* judgment on 25 August 2011, Emmett J defined substantial market power as follows:[92]

> "Substantial market power is the ability to earn returns substantially in excess of the opportunity cost of capital, without attracting the entry of participants who would be likely to impose significant competitive constraints."

A similar approach is adopted in other countries' competition laws. For example:

- European Union law prohibits the abuse of a dominant position in a market. 'Dominance' has been defined as meaning that the firm "enjoys substantial market power over a period of time".[93]

- The American Bar Association (ABA) describes substantial market power under United States law as requiring the "ability to raise a price significantly above competitive levels for a sustained period of time" with the firm being "insulated from competition over the long run by significant barriers to entry".[94] The ABA notes that the requirement that supra-competitive prices must be maintained for a sustained period of time is important to distinguish market power from "opportunistic behaviour" involving the temporary elevation of prices above competitive levels.[95]

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89 *Queensland Wire Industries Pty Ltd v Broken Hill Co Ltd* (1989) 167 CLR 177 at 188.

90 Corones, *Competition Law in Australia*, 4th edition, 2007, p125.

91 *Boral Besser Masonry v ACCC* (2003) 215 CLR 374 at [293]; *Universal Music Australia Pty Ltd v ACCC* (2003) FCR 529 at 568.

92 *ACCC v Metcash Trading Limited* [2011] FCA 967 at [164].

93 European Commission, *Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings,* 2009, paragraph 10.

94 ABA Section on Antitrust Law, *Market Power Handbook*, 2005, p5.

95 Ibid, p2.

The leading Australian case on market power issues in electricity markets is *AGL v ACCC*, which related to the acquisition of Loy Yang A by a consortium including AGL.[96] Part of the judgment considered Loy Yang's bidding behaviour during the 2000/2001 summer, which the ACCC alleged showed that Loy Yang had exercised substantial market power to raise spot prices. The conduct in question has similarities to the AGL conduct that is the motivation of the MEU's Rule change proposal.

French J found that Loy Yang's bidding behaviour did not constitute evidence of substantial market power.

In his judgment, French J drew a distinction between 'substantial' and 'transient' market power as follows:[97]

> "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....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."

French J's conclusion that Loy Yang had not exercised substantial market power was based in part on comparisons between market prices and LRMC modelling conducted by expert economists engaged by AGL. French J stated:[98]

> "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 [i.e. Loy Yang Power] 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."

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96 *Australian Gas Light Company v ACCC (No 3)* [2003] FCA 1525.

97 Ibid, at [456].

98 Ibid, at [492].

French J also specifically addressed whether economic withholding causing price spikes constituted an exercise of substantial market power:[99]

> “The ACCC has made subsequent submissions about price spikes said to derive from economic withholding by LYP. 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 longrun 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.”

French J also addressed market definition issues. He considered that there was "a degree of unreality" in separating out the markets for electricity and the provision of derivative contracts, and that they comprised a single market. He noted that interconnector constraints can cause price separation between NEM regions, but considered that the frequency and extent of separation was relatively low and that the geographic market "is not to be determined by a view frozen in time or by observations based on shortrun time scales". He concluded that the there was "one NEM-wide geographic market for the supply of electricity, and associated with that, the entry into electricity derivative contracts."[100]

The Federal Court's recent guidance on the approach to market definition in *ACCC v Metcash* is also relevant. Emmett J stated:[101]

> “In any market definition, considerations of commercial reality, not just economic theories, are relevant. The economic concept of a **market** must be applied in a practical way...”

3.6 Key international electricity regulatory precedents

3.6.1 UK Competition Commission market abuse licence condition report

The Commission considers that the most relevant international regulatory precedent is the report by the UKCC into licence conditions sought by Ofgem and the Director General of Electricity Supply to address conduct that they considered amounted to an abuse of substantial market power by generators.[102]

The proposed licence conditions defined substantial market power as "the ability to bring about, independently of any changes in market demand or cost conditions, a

99 Ibid, at [493].

100 Ibid, at [382] - [387].

101 *ACCC v Metcash Trading Limited* [2011] FCA 967 at [329].

102 United Kingdom Competition Commission, *AES and British Energy, A report on references made under section 12 of the Electricity Act 1989*, December 2000.

substantial change in wholesale electricity prices".[103] Ofgem stated that it was not concerned with price spikes occurring from underlying market conditions, but considered it to be an abuse of market power if offer prices significantly differed between times when demand and cost conditions were similar.

The UKCC rejected the proposed licence conditions. It found that there was no evidence that the relevant generators were likely to exercise market power. Importantly, the UKCC also stated:[104]

> "Moreover, we think that such a prohibition would cause uncertainty, because of the difficultly in distinguishing between abusive and acceptable conduct, and would risk deterring normal competitive behaviour."

The UKCC defined substantial market power as:[105]

> "[T]he ability of a generator, acting independently, to raise prices consistently and profitably above competitive levels."

This definition raises questions as to the meanings of 'acting independently', 'consistently', profitably' and 'competitive levels'. The UKCC did not define these terms, but noted the following:

- 'Acting independently' incorporates a lack of constraint by other generators. It also clarifies that the definition is not intended to cover tacit collusion between generators.

- 'Consistently' does not mean that the conduct has to be continuous, but the materiality of an accumulation of price increases must be considered. The UKCC stated:[106]

  > "[I]t is important to keep in mind that this is a commodity market in which prices are volatile... 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."

- 'Profitably' requires that the net effect of any withdrawal of capacity is profitable - i.e. the lost revenue on the capacity withdrawn by the generator is more than offset by increased revenue arising from higher prices for the generator's remaining capacity.

- The 'competitive level' of prices must be assessed. The UKCC considered that it is not enough (as was proposed by Ofgem) to simply determine that prices differ

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103 Ibid, p17.

104 Ibid, p4.

105 Ibid, p3.

106 Ibid, p40.

between two periods without assessing whether those prices are above the competitive level, for example by reference to a new entrant's costs.

More recently, the United Kingdom has introduced a much narrower power to modify licence conditions under the *Energy Act 2010* in relation to "the exploitation of electricity trading and transmission arrangements".[107] This power to modify licence conditions may only be used for the purpose of "limiting or eliminating the circumstances in which, or the extent to which, a licence holder may obtain an excessive benefit from electricity generation in a particular period".

3.6.2 Other relevant electricity regulatory precedents

The MEU proposal and attached EEE Ltd report, and the Biggar report for the AER, refer to several other wholesale markets that adopt measures to mitigate market power, mainly in North America. However, many of the examples given are capacity markets, which the Commission considers limits their relevance for an energy-only market such as the NEM.

For example, the Biggar report notes that the Western Australia wholesale electricity market (WEM) expressly requires that generators offer their energy at SRMC as a means of mitigating market power.[108] However, the WEM has a reserve capacity mechanism that is expressly intended to allow generators to recover their fixed costs.

The Single Electricity Market in the Republic of Ireland and Northern Ireland also contains similar mechanisms requiring generators to bid at SRMC to address concerns about potential market power. The Biggar report also refers to the New England market, where the Internal Market Monitor is required to investigate the reasons for bidding behaviour by any generator that is deemed to be a 'pivotal supplier' if those bids fall outside of specified thresholds.[109] However, both of these markets include capacity mechanisms that allow for the recovery of fixed costs.

The Biggar report also discusses the Texas market. Biggar notes that the Texas market rules prohibit a range of activities including engaging in 'market power abuse', which is defined as including economic or physical withholding of capacity by a market

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107 *Energy Act 2010* (UK), section 18. This power to modify licence conditions has not been exercised to date. The introduction of these provisions followed a report by Ofgem in 2009 in which Ofgem stated that it continued to have concerns about the undue exploitation of market power in particular circumstances - Ofgem, *Addressing Market Power Concerns in the Electricity Wholesale Sector - Initial Policy Proposals*, 30 March 2009.

108 Biggar, *The theory and practice of the exercise of market power in the Australian NEM*, 26 April 2011, p37. The relevant provision states that a generator must not offer prices that do not reflect its reasonable expectation of the SRMC of generating the relevant electricity "when such behaviour relates to market power" - Rule 6.6.3. This definition does not appear to mean that offering capacity at a price that exceeds SRMC is necessarily a breach of the Rules, and it appears to require separate evidence that the generator has market power and that the bidding behaviour 'relates to' that market power.

109 Ibid, p37.

participant who has market power.[110] The Commission notes that the Texas market rules define 'market power' as "the ability to control prices or exclude competition in a relevant market".[111] Accordingly, these rules do not appear to deem all economic or physical withholding of capacity by any generator to constitute an exercise of market power, but first require a separate assessment of whether the relevant generator is able to "control prices or exclude competition".

Texas is an energy-only market and does not include a capacity or reserve market. However, Bill Hogan has argued that the design of the Texas market, including its market price cap and market power mitigation measures, is likely to lead to the 'missing money' problem discussed in section 3.4.2 above.[112]

The MEU proposal and Biggar report also refer to Alberta, which has an energy-only market. The Alberta Market Surveillance Administrator's (MSA) Offer Behaviour Guidelines note that the lack of a capacity market to ensure adequate new generation investment means that a different approach is required in Alberta than in other North American markets where "a short run cost-based standard and associated efforts to police against the exercise of market power" are more important.[113]

The MSA's Guidelines state that giving too much weight to static efficiency concerns in the Alberta market could chill the incentive to innovate or invest and may harm dynamic efficiency. The MSA therefore focuses on anti-competitive behaviour that weakens or eliminates constraints posed by rivals, drawing on concepts from competition law. Generator offer behaviour that is individually profit maximising and does not impact on rivals' conduct, including economic withholding of capacity, is generally not of concern to the MSA.[114]

Accordingly, the Commission does not consider that international electricity regulatory precedents provide support for adopting a definition of market power that would require generators to always offer their capacity at SRMC, particularly in an energy-only market. Instead, the Commission considers that the approach adopted in Alberta, with its focus on long term considerations such as the effect on investment incentives rather than short term costs and prices, is more appropriate in an energy-only market.

3.7 Previous AEMC comments

The Commission notes that its approach in this Directions Paper is consistent with several previous comments by the Commission on market power and related issues.

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110 Biggar, *The theory and practice of the exercise of market power in the Australian NEM*, 26 April 2011, p37. See the Texas Administrative Code, Title 16, Part II, Rules 25.503 and 25.504.

111 Rule 25.504(b)(2).

112 Hogan, *Texas Nodal Market Design: Observations and Comments*, Presentation to ERCOT Energised Conference, 2 May 2008, pp3-4.

113 Alberta Market Surveillance Administrator, *Offer Behaviour Enforcement Guidelines for Alberta's Wholesale Electricity Market*, 14 January 2011, pp8-9.

114 Ibid, pp9-10.

In the South Australia retail competition review, the Commission stated:[115]

> "Market power is the ability of one or more suppliers in a market to sustain prices above long run costs, including a return on capital and accounting for risk, without margins being eroded by the competitive activity of rivals and/or entry."

In the Final Determination on the Compensation Arrangements under Administrated Pricing Rule change, the Commission stated:[116]

> "Price volatility is essential for recovering fixed costs in an energy-only market. It also plays an important role in signalling the need for new investment. As there are no capacity payments, there needs to be sufficient periods of time in the year when the spot price is high enough that settlement payments to generators are above their short run marginal costs and are able to contribute to their fixed costs."

Origin Energy and TRUenergy's submissions also referred to similar comments in the Commission's climate change review and previous Reliability Panel reports acknowledging the role of high prices in an energy-only market and the likelihood of what this paper describes as transient pricing power.[117]

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115 AEMC, *Review of the Effectiveness of Competition in Electricity and Gas Retail Markets in South Australia, First Final Report*, 19 September 2008, p6.

116 AEMC, *Rule Determination, National Electricity Amendment (Compensation Arrangements Under Administered Pricing) Rule 2008*, 18 December 2008, p5.

117 Origin Energy submission p5. TRUenergy submission, pp1 and 3.

4 The AEMC's power to make the MEU's proposed Rule

4.1 Overview of submissions

Several submissions raised issues regarding the AEMC's power to make the MEU's proposed Rule. Some submitters also questioned whether it was appropriate for the AEMC to consider the Rule change request. Several of those submitters considered that the Rule change request involves competition issues and allegations of anti-competitive behaviour, which they considered were the responsibility of the ACCC.

The AEMC received a letter from the National Generators Forum (NGF) on 11 May 2011. The NGF asked the AEMC to clarify the basis for its conclusion in the Consultation Paper that it has the power to commence the Rule change process under the NEL. The NGF letter noted that the Minister for Industry and Trade stated in his second reading speech when the NEL was introduced that section 46 of the *Trade Practices Act* (as the CCA was then called) would continue to apply to the NEM and it was not contemplated that any body other than the ACCC would undertake the role of competition regulator under the *Trade Practices Act*.

The NGF letter also referred to clause 3.1.4(b) of the NEL, which states:

> "This Chapter is not intended to regulate anti-competitive behaviour by *Market Participants* which, as in all other markets, is subject to the relevant provisions of the Trade Practices Act, 1974 and the Competition Codes of *participating jurisdictions*."

The AEMC responded to the NGF letter on 20 May 2011. The NGF letter and the AEMC's response were published on the AEMC website.

Submissions from the NEM Generators' Group, AGL, International Power and LYMMCo also raised issues regarding the AEMC's powers to make the proposed Rule, or the AEMC's suitability to consider the matters raised in the Rule change proposal.

- The NEM Generators' Group considered that the AEMC should identify a specific source of its power to make the MEU's proposed Rule, and considered that the second reading speech noted above indicated that 'competition regulation' would remain the province of the ACCC and was not a subject matter of the NEL or Rules.[118]
- AGL and International Power made specific legal arguments regarding the AEMC's powers to commence the Rule change process or make the MEU's proposed Rule, which are addressed in section 4.4 below.[119]

118 NEM Generators' Group submission, p2.

119 AGL submission, pp1-2 and 11. International Power submission, pp13-14.

- LYMMCo did not raise any specific legal arguments, but stated that the Rule change proposal involves issues of competition law and policy that are outside the remit of the AEMC.[120]

4.2 The AEMC's power to make the MEU's proposed Rule

Under section 94 of the NEL, upon receipt of a Rule change request the AEMC must consider whether:

- the request appears to contain the information prescribed in the Regulations;
- the request appears to not be misconceived or lacking in substance;
- the subject matter of the request appears to relate to a matter in respect of which the AEMC may make a Rule under the NEL; and
- the subject matter of the request appears to relate to the subject matter of a Rule made, or request not proceeded with, in the last 12 months, or another request in respect of which the AEMC is currently taking action.

Having regard to these requirements, the Commission determined that it was appropriate to commence the Rule change process in relation to the MEU's proposed Rule.[121]

The Commission considers that the subject matter of the MEU's Rule change request relates to the following matters in respect of which the Commission may make a Rule:

- regulating the operation of the NEM - section 34(1)(a)(i) of the NEL;
- regulating the activities of persons (including Registered participants) participating in the NEM - section 34(1)(a)(iii) of the NEL;
- the setting of prices for electricity and services purchased through the wholesale exchange operated and administered by AEMO, including maximum prices - item 7 of Schedule 1 of the NEL; and
- the methodology and formulae to be applied in setting prices referred to in item 7 - item 8 of Schedule 1 of the NEL.

120 LYMMCo submission, p1.

121 As noted the Consultation Paper, two aspects of the MEU's proposed Rule are outside of the AEMC's Rule making powers under the NEL. Those aspects relate to the AER's powers in investigating and setting penalties for a breach of the Rules. As stated in the Consultation Paper, the AEMC is unable to make a Rule change in relation to those aspects of the MEU's proposal, but those aspects can be severed from the remainder of the MEU's proposed Rule.

4.3 Is the AEMC the appropriate body to consider the matters raised by the Rule change request?

The Commission acknowledges the comments in the NGF letter and the NEM Generators' Group submission that:

- the NEL and the Rules were not intended to regulate anti-competitive behaviour that is the subject of the CCA;
- section 46 of the CCA should continue to apply to participants in the NEM; and
- the ACCC should continue to undertake the role of competition regulator.

The Commission agrees with each of these comments.

The MEU's proposed Rule does not seek to introduce a Rule that prohibits anti-competitive behaviour by generators or that overrides or limits the application of section 46 of the CCA. The Commission has no intention of making a more preferable Rule that would do so.

Competition law cases are referred to in section 3.5 above because the Commission considers that they are one of several useful sources of information to inform the Commission's approach. However, the primary issues to be considered by the Commission when assessing the MEU's proposed Rule are economic issues regarding the impact of the proposed Rule on the achievement of the NEO. A key question that the Commission is seeking to address is whether there is evidence that generators are exercising substantial market power in a manner that negatively impacts on the achievement of the NEO but which does not breach the CCA.

The Commission considers that if the exercise of substantial market power as defined in this paper occurred, it would be likely to have significant impacts on efficiency in the NEM and be contrary to the long term interests of consumers, even if there is no suggestion that the relevant generator has taken advantage of its market power for an anti-competitive purpose and there is therefore no possible breach of section 46 of the CCA.[122]

Several submissions from generators appear to acknowledge this point. For example, the AGL submission and the Frontier report state that the exercise of enduring or substantial market power would reduce efficiency and damage the long term interests of consumers for the following reasons:

- prices that are persistently above LRMC may result in allocative inefficiency due to inefficient levels of electricity consumption and production;

122 As discussed in section 3.5 above, section 46 of the CCA does not prohibit the exercise of substantial market power. Section 46 is only infringed if a corporation takes advantage of substantial market power for an anti-competitive purpose.

- the out-of-merit-order dispatch arising from a generator bidding above its SRMC or withholding capacity will result in productive inefficiency; and
- sustained prices above LRMC may affect competition in retail and hedge markets and lead to higher prices paid by consumers.[123]

There is no suggestion by AGL or Frontier that these effects would only arise if the generator also satisfied the taking advantage and anti-competitive purpose requirements of section 46 of the CCA, and no reason to think that would be the case.

Accordingly, the Commission considers that it is within its powers and appropriate for it to continue to assess the MEU's proposal to determine whether there is evidence of the exercise of substantial market power as defined in this paper and, if so, whether the proposed Rule or a more preferable Rule would better contribute to the achievement of the NEO.

4.4 Responses to specific legal arguments raised by submitters

4.4.1 AGL submission

AGL's submission states:[124]

> "This rule is clearly about modifying the behaviour of some participants at certain times. Interpreting the NEM as defined in the NEL s2 means that the AEMC is limited in its power under s34(1)(a)(i) to making rules in relation to regulating the operation of the "wholesale exchange operated and administered by AEMO" and the "national electricity system". That is the AEMC is not empowered to make Rules more generally regarding the behaviour of sellers and buyers within the wider economic or wholesale market."

It appears from this comment that AGL considers that the AEMC's powers under section 34(1)(a)(i) of the NEL to make Rules regulating "the operation of the national electricity market" are limited by reference to the definition of "national electricity market" that is contained in section 2 of the NEL.

The Commission does not agree with AGL's argument. The MEU's proposed Rule relates solely to the content of dispatch offers that a generator may submit as part of the operation of the wholesale exchange operated and administered by AEMO. Nothing in the proposed Rule relates to the behaviour of generators "within the wider economic or wholesale market". The proposed Rule therefore relates to the operation of the national electricity market, as defined in section 2 of the NEL.

123 Frontier Economics, *Response to AEMC consultation paper*, June 2011, pp14-26. AGL submission, pp18-20.

124 AGL submission, pp1-2.

The Commission also notes that section 34(3) of the NEL expressly permits the AEMC to make Rules that "may be of general or limited application" and that "impose obligations on any person or class of person".

4.4.2 International Power submission

Section 36(b) of the NEL

International Power's submission states that the MEU's proposal would, if implemented, have the effect of constraining the level at which a 'dominant generator' can make dispatch offers in certain circumstances. International Power argues that this restriction may act as a penalty and:[125]

> "In substance and legislative purpose and object (if not in form), the imposition of such a penalty is inconsistent with section 36(b) of the NEL. In addition the imposition of such a penalty would not fall within item 7 of Schedule 1 of the NEL."

International Power appears to be arguing that the imposition of a price cap on dispatch offers in those circumstances "provides for a criminal penalty or civil penalty for a breach of the Rules", which is not permitted under section 36(b) of the NEL.

The Commission does not agree with International Power's interpretation of section 36(b) of the NEL. The MEU's draft Rule proposes that a price cap apply to dispatch offers in certain circumstances set out in the Rules. The imposition of a price cap is not a criminal or civil penalty and does not involve any breach of the Rules.

In addition, the Commission notes that the draft Rule proposes that the price cap be implemented by applying the current APC under the Rules. The application of the APC is not the imposition of a criminal or civil penalty for a breach of the Rules. Instead, it is the imposition of a maximum price, consistent with items 7 and/or 8 of Schedule 1 of the NEL.

Sections 45 and 91B of the NEL

International Power argues that the AEMC cannot implement a Rule change that is inconsistent with clause 3.1.4(b) of the Rules because:

- section 91B of the NEL only empowers the AEMC to make Rules that are consequential to a Rule change request if "necessary or consequential", and it is not necessary or consequential to the MEU's Rule change request to make Rules in relation to anti-competitive behaviour; and
- if the AEMC wished to amend clause 3.1.4(b) of the Rules and confer on itself or the AER powers in relation to competition issues, it is first required to conduct a

125 International Power submission, p13.

review of the operation and effectiveness of the Rules under section 45(1) of the NEL and provide a report to the Ministerial Council on Energy.[126]

The Commission does not agree with either of these arguments.

The MEU's Rule change request and draft Rule expressly propose an amendment to clause 3.1.4(b) of the Rules and set out the wording of the proposed amendment to that clause. Accordingly, an amendment to clause 3.1.4(b) is not a consequential amendment in terms of section 91B and that section is not relevant to the MEU's Rule change request.

The Commission also considers that section 45 of the NEL is not relevant to the MEU's Rule change request, particularly given that the MEU's request and draft Rule expressly propose an amendment to clause 3.1.4(b) of the Rules. An existing provision of the Rules cannot constrain the Commission's Rule making powers under the NEL. Division 3 of Part 7 of the NEL clearly authorises the AEMC to make a Rule change that is proposed in a Rule change request.

126 International Power submission, p14.

5 Next steps

The Commission seeks submissions from stakeholders on the approach proposed in this Directions Paper. Submissions close on 17 November 2011.

The next stage of the process will involve the Commission using the proposed definitions set out in this paper, subject to any amendments following submissions, to investigate whether there is evidence of the exercise or likely exercise of substantial market power by generators in the NEM.

The first step in that investigation will be to determine the boundaries of the relevant geographic market or markets. The Commission will do so by applying the test explained in section 2.4.2.

The Commission will then assess whether there is evidence that any generators have exercised substantial market power in any relevant market, or are likely to do so in the near future. That assessment will involve several steps, including:

- determining the annual average wholesale price for each relevant geographic market during recent years, having regard to both spot and contract prices;
- estimating LRMC - i.e. the cost (in net present value terms) of bringing forward a capacity expansion to meet a specified increment in demand - which will be determined for each relevant geographic market in accordance with the methodology discussed in section 2.2 and the NERA report;
- considering whether there is evidence of any expected changes in market circumstances which may mean that the exercise of substantial market power is more or less likely in the future; and
- if recent annual average wholesale prices exceed LRMC in any relevant geographic market, or there is evidence that they are likely to do so in the near future, some or all of the following steps will be required:
  - assessing whether there are significant barriers to entry in the relevant market; and
  - assessing whether any *individual generator* has the ability to engage in conduct that is likely to result in sustained annual average wholesale spot or contract prices that exceed LRMC.

If there is more than one relevant geographic market, these steps will be undertaken in relation to each market.

The comparison of annual average wholesale spot and contract prices and LRMC is only an initial 'filter'. If there is no evidence of annual average wholesale prices exceeding LRMC in any relevant market, and no evidence that this is likely to occur in the near future, that indicates that no generator has exercised or is likely to exercise substantial market power. However, if annual average prices exceed LRMC, that does not in itself indicate that any *individual generator* has substantial market power. Further analysis will be required to assess whether those above-LRMC prices have been caused (or are likely to be caused) by the conduct of any particular generator or by other factors.

The Commission notes that if this investigation shows that annual average spot or contract prices exceed LRMC by a small amount, some judgement will be required as to whether that represents evidence of the exercise of substantial market power. The Commission will have regard to the magnitude of the difference between prices and costs together with the length of the period during which average prices exceed (or are likely to exceed) LRMC when assessing whether there is evidence of a problem that justifies regulatory intervention. The Commission will also be mindful of the fact that there will be a degree of estimation required when calculating LRMC.

It will also be relevant to consider the appropriateness of a NEM-wide Rule change if substantial market power as defined in this paper is only found to exist in one NEM region as a result of how the generation sector is structured in that region.

The definition of substantial market power also requires the Commission to form a view as to whether any above-LRMC prices are likely to be able to be sustained in the future. As part of that analysis, the Commission will assess whether there are any factors that are likely to make the exercise of substantial market power either more or less likely in the future.

If this analysis indicates that there is evidence of the exercise of substantial market power, the Commission intends to publish a Preliminary Assessment and Options Paper in early 2012. If there is no evidence of the exercise of substantial market power, the Commission is likely to proceed directly to a Draft Determination.

Abbreviations

ABA	American Bar Association
ACCC	Australian Competition and Consumer Commission
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AFMA	Australian Financial Markets Association
APC	administered price cap
CCA	*Competition and Consumer Act 2010* (Cth)
Commission	See AEMC
DTEI	South Australian Department for Transport, Energy and Infrastructure
ESAA	Energy Supply Association of Australia
EUAA	Energy Users Association of Australia
Expert Panel	Tasmanian Electricity Supply Expert Panel
LRMC	long run marginal cost
LYMMCo	Loy Yang Marketing Management Company
MEU	Major Energy Users Inc.
MPC	market price cap
MSA	Market Surveillance Administrator
MWh	megawatt hour
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NGF	National Generators Forum

Rules	National Electricity Rules
SRMC	short run marginal cost
UKCC	United Kingdom Competition Commission

A Summary of issues raised in submissions to the Consultation Paper

This Appendix summarises the key issues raised in submissions to the Consultation Paper, to the extent that they relate to issues that are addressed in this Directions Paper. It also sets out the Commission's response to each of those issues. The issues are grouped into the key questions that are addressed in chapters 2 and 4 of this Directions Paper. Page references are to the relevant page of the stakeholder's submission.

Where submissions to the Consultation Paper raised issues that are not addressed in this Directions Paper, the Commission intends to respond to those submissions in the Draft Determination. This Appendix does not address documents published on the AEMC's Web Forum.[127]

Stakeholder	Issue	AEMC Response
Should a distinction be made between 'market power' and 'substantial market power'?		
AER	Considers that high prices are part of the NEM and are important as they signal the need for investment. The AER is not concerned with periods of high prices which are consistent with underlying supply and demand conditions. However, the AER is concerned about situations where high prices reflect systemic economic withholding by generators. (p4)	The Commission agrees that periods of high prices are likely in an energy-only market such as the NEM and can provide a mechanism for generators to recover their efficient fixed costs and provide a signal for investment. If a generator is able to cause price spikes by economic withholding, that may constitute an exercise of substantial market power if it occurs with sufficient frequency to cause annual average prices to exceed LRMC.
AER	Considers that the exercise of market power is problematic when it significantly affects average wholesale prices, with subsequent flow on effects to retail and contract prices. Although high spot prices in the NEM are transitory, the AER is concerned about the effect on average prices over a longer time period. Suggests that the effect on quarterly average prices may be an appropriate test. (p6)	The Commission agrees that the effect on average prices is a key test for assessing the existence of substantial market power. The Commission proposes that annual average prices are a more suitable test than quarterly average prices for the reasons set out in sections 2.4.1 and 3.2.3 of this paper.

127 The only documents published on the Web Forum were an MEU paper responding to the NEM Generators' Group submission and Frontier report, and a letter from Frontier responding to a comment made in the MEU paper. The MEU paper is discussed in section 3.3.3 of this paper. The Frontier letter does not relate to issues that are addressed in this Directions Paper.

Stakeholder	Issue	AEMC Response
AER - Biggar report	Rejects the argument that the exercise of market power is necessary to ensure that generators can recover their fixed costs, and considers that any exercise of market power (defined as bidding above SRMC) is harmful to the market as it results in out-of-merit-order dispatch and inefficient demand-side response. (pp23-25)	The Commission agrees that bidding above SRMC has the potential to result in some efficiency losses including out-of-merit-order dispatch. However, the Commission considers that in an energy-only market such as the NEM, some generators are unlikely to be able to recover their efficient fixed costs if they could never offer their capacity above SRMC, and that such an outcome would be likely to result in detrimental effects on efficient investment. As a result, the Commission proposes that a distinction should be drawn between transient pricing power (such as occasional bidding above SRMC) and substantial market power.
AGL	Considers that the MEU's proposal is based on an incorrect premise that NEM outcomes should reflect a perfectly competitive market, but this does not exist and is an unreal standard against which to assess actual competitive outcomes. Considers that the MEU does not recognise that the NEM is a “workably competitive market” that will not always reflect the outcomes expected in a perfectly competitive market. (p8)	The Commission agrees that workable competition is a more appropriate benchmark than perfect competition when defining market power.
ESAA	Considers that an integral feature of the energy-only market design of the NEM is the ability to experience high priced events, which are relatively rare but necessary to provide necessary revenue for peaking generation, enable baseload stations to bid at or under SRMC most of the time and provide a signal for new investment. Considers that the NEM is not a perfectly competitive market by design. Transitory market power is essential to produce occasional high prices that enable generators to earn sufficient revenue, elicit immediate supply and demand responses following technical incidents and signal the need for new investment. (p2)	The Commission agrees that periods of high prices are likely in an energy-only market such as the NEM and can provide a mechanism for generators to recover their efficient fixed costs and provide a signal for investment. The Commission agrees that workable competition is a more appropriate benchmark than perfect competition when defining market power.

Stakeholder	Issue	AEMC Response
DTEI	Proposes that a key question is whether market power is a structural problem or is a transitory issue related to the generator's contract position. If the latter, it may be more appropriate to be managed under trade practices provisions. (p2)	The Commission agrees that this question is important and that a distinction should be made between structural problems (which the Commission interprets to mean persistent or ongoing problems) and transitory issues. The Commission proposes to make such a distinction by defining 'substantial market power', which can be distinguished from transient pricing power (which is similar to what several submitters refer to as 'transient market power').
ESAA	Considers that competition law literature and legislation recognises that market power must be significant and durable to warrant concern. 'Significant' means prices exceed not only marginal cost but also long run average cost, while 'durable' means able to sustain economic profits in the long run. (p4)	The Commission's proposed approach in this paper is to define 'substantial market power'. This approach has similarities to the approach adopted in competition law. The Commission proposes that the appropriate cost measure is LRMC rather than long run average cost.
Hydro Tasmania	Argues that the NEO could only justify intervention if annual average spot prices persistently exceed LRMC beyond the timeframe required for new entry. (p5)	The Commission's proposed definition of substantial market power in this paper is similar to this proposal.
International Power	Considers that in energy-only market, generators rely on intermittent high prices and situational market power to contribute to fixed costs and derive a return on capital. The MPC limits the impact of 'situational market power', but it needs to be high enough to incentivise new entrants. Spot market price and volatility are essential to drive investment. (p4)	The Commission agrees that periods of high prices are likely in an energy-only market such as the NEM and can provide a mechanism for generators to recover their efficient fixed costs and provide a signal for investment. The Commission proposes that a distinction should be made between 'substantial market power' and transient pricing power, with the latter being similar to what International Power refers to as 'situational market power'.

Stakeholder	Issue	AEMC Response
International Power	Argues that the MEU's proposal does not consider the concept of competition and how it is assessed for the purposes of competition policy. It is established that it is not 'perfect competition' but 'workable competition' that is important, which must be analysed on a long term basis since short term assessments are distortionary. A market should be considered to be workably competitive where new investment occurs in a timely manner in response to market signals. Workable competition tolerates a degree of market power on the basis that market forces will increase efficiency on a longer term basis. (pp16-17)	Noted. The Commission agrees that workable competition is a more appropriate benchmark than perfect competition when defining market power.
International Power	Notes that in its 2002 Final Determination to Authorise Changes to the Bidding and Rebidding Rules under the National Electricity Code the ACCC rejected a proposal to prohibit bids or rebids that have the purpose, effect or likely effect of materially prejudicing the efficient, competitive or reliable operation of the NEM. States that the ACCC recognised that due to lead times involved in large scale investments, delays can arise between when prices begin to signal the need for new investment and the time when the investment is brought online and begins to moderate prices. In practice therefore, it may be necessary to tolerate some short term price spikes in order to encourage efficient investments. (pp23-24)	Noted. The Commission agrees that short term price spikes can provide a signal for investment.

Stakeholder	Issue	AEMC Response
International Power	Argues that the MEU's proposal misunderstands that market power requires an ability to act without constraint over a sustained period of time and mere engagement in particular conduct is neither evidence of market power nor its use. Concept of sustained/persistent behaviour assessed over time has been consistently applied by the Courts, while the concept of transitory market power has been expressly and consistently rejected. *AGL v ACCC* distinguished inter-temporal market power from a long run phenomenon having regard to the possibilities of new entry through additional generation capacity and the upgrade of interconnectors. French J also considered that 'success at gaming' in the market during limited periods of high demand does not reflect market power and that transitory market power is not sufficient under the CCA. (pp20-21)	The Commission agrees that it is appropriate to consider behaviour over a sustained period of time when assessing whether there is evidence of substantial market power. The Commission notes French J's comments in *AGL v ACCC* (which are discussed in more detail in section 3.5) and has had regard to those comments in reaching the views set out in this paper. However, the Commission notes that competition law decisions are only one relevant source of information to inform the Commission's approach, and the Commission's decisions on the MEU's proposed Rule will be based on the NEO.
MEU	Disagrees with suggestions that price rises must be sustained before regulatory changes are justified. Because of the very high MPC, 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. (p20)	The Commission agrees that the level of the MPC means that price spikes can have a significant effect on average wholesale prices. Price spikes may constitute evidence of substantial market power if they occur to such an extent and with sufficient frequency to cause annual average prices to exceed LRMC. The Commission notes that its assessment of the MEU's proposal will be based on the NEO, which relates to the efficient use and operation of, and efficient investment in, electricity services. The prevention of wealth transfers does not (on its own) promote efficiency.
NEM Generators' Group - Frontier report	Considers that the extent to which firms are subject to competitive constraints will vary in the real world from those faced under "perfect" competition. Accordingly, proposes that a market is considered "workably" competitive where no one firm can be said to have significant market power (as opposed to transient market power), i.e. where market power cannot be sustained over the long term. (p6)	The Commission agrees that workable competition is a more appropriate benchmark than perfect competition when defining market power. The Commission proposes that a distinction should be made between substantial market power and transient pricing power, with the latter being similar to what several submitters refer to as transient market power.

Stakeholder	Issue	AEMC Response
NEM Generators' Group - Frontier report	Argues that the high prices caused by transient market power can be what drives new investment, as new firms enter the market in pursuit of those high prices. Thus considers that any regulation of the market to prevent transient market power may be counter-productive, as it weakens the incentives for new parties to enter and erodes the ability of generators to exercise their transient market power. (p7)	The Commission proposes that a distinction should be made between substantial market power and transient pricing power, with the latter being similar to what several submitters refer to as transient market power.
Origin Energy	Considers that in an energy only market, for generators to be economic, they must have an ability to recoup LRMC. To ensure dispatch, offers are usually made at SRMC, which does not include capital or fixed costs, but SRMC pricing would not be commercially sustainable in the long run. For marginal generators, spot prices based on SRMC would result in long run under-recovery of fixed costs. Therefore a necessary and inherent feature of the NEM is the ability of the marginal generator to occasionally bid above SRMC to recover fixed costs. Imposition by MEU's proposal of what is effectively a capacity market (but without accompanying capacity payments) means generators would be at significant risk of not being able to recover LRMC. (p5)	The Commission agrees that in an energy-only market such as the NEM, some generators are unlikely to be able to recover their efficient fixed costs if they could never offer their capacity above SRMC. The Commission agrees that such an outcome would be likely to result in detrimental effects on efficient investment.
TRUenergy	Considers that the MEU's Rule change seeks to remove transient market power from the NEM, but does not replace this with any other mechanism to signal the need for new investment, or to provide for the recovery of fixed operating and capital costs. If the AEMC is to develop a test to determine whether market power exists, this should distinguish between transient and permanent market power. The exercise of transient market power is a design feature of the NEM that signals demand response, new investment and provides an incentive to contract. (pp 2, 4-5)	The Commission proposes that a distinction should be made between substantial market power and transient pricing power, with the latter being similar to what several submitters refer to as transient market power.

Stakeholder	Issue	AEMC Response
What is the appropriate definition of market power / substantial market power?		
AER - Biggar report	Considers that a firm has market power if it can, by changing its output, affect the wholesale market price that it is paid. (p3)	The Commission's proposed definition of 'substantial market power' is set out in section 2.2 of this paper. The Commission proposes that the ability to affect the wholesale market price in a single trading interval is not enough on its own to constitute a substantial market power problem that justifies regulatory intervention, and it is necessary to assess whether the generator has the ability to increase the annual average wholesale price to a level that exceeds LRMC.
AGL	Considers that observations of prices being above a generator's SRMC in a specific period are not sufficient to characterise a generator as having market power. All firms facing large fixed costs require the price they receive to exceed their marginal cost at least at certain times if they are to be able to recover their total costs. Generators at particular times are able to set spot prices in excess of their SRMC in a given trading interval. However, whether such behaviour constitutes enduring market power must be considered having regard to whether the generator is able to earn economic profits in the long-run or whether these profits will be reined in by new entry into (or expansion by other existing operators in) the market. (p13)	The Commission's proposed definition of 'substantial market power' is set out in section 2.2 of this paper. The Commission proposes that the ability to bid above SRMC in a single trading interval is not enough on its own to constitute substantial market power. The Commission's proposed definition requires an ability to increase the annual average wholesale price to a level that exceeds LRMC, and the ability to sustain prices at that level due to significant barriers to entry.
AGL	Considers that enduring market power should be defined as the ability of generators to act without competitive constraint in the long run, such that they are able to earn long run economic profits. Generators may earn prices in excess of SRMC in the short term, but it is the ability of the generator to earn these profits in the long run or whether these profits are reined in by new entry of generators, or expansion of existing generators, which is key. (pp2, 15)	The Commission's proposed definition of 'substantial market power' is set out in section 2.2 of this paper. The Commission's proposed definition requires an ability to increase the annual average wholesale price to a level that exceeds LRMC, and the ability to sustain prices at that level due to significant barriers to entry.

Stakeholder	Issue	AEMC Response
Aurora Energy	Proposes that market power should be defined as the ability to raise prices above a level that is considered competitive for a substantial period, due to the absence of competition and any constraints on behaviour. (p6)	The Commission's proposed definition of 'substantial market power' set out in section 2.2 of this paper is similar to the definition proposed by Aurora Energy. It requires an ability to increase the annual average wholesale price to a level that exceeds LRMC, and the ability to sustain prices at that level due to significant barriers to entry. LRMC is considered to reflect the level of average prices that should exist in a workably competitive market.
Energy Action Group	Considers that the MEU's proposal appropriately addressed this issue. (p3)	The Commission's proposed definition of 'substantial market power' is set out in section 2.2 of this paper. The Commission's proposed approach differs from the MEU's proposal, which essentially asked whether any generator was 'pivotal' and must be dispatched in order to meet maximum regional demand. This paper proposes that a more appropriate approach is to assess whether any generator has an ability to increase the annual average wholesale price to a level that exceeds LRMC, and sustain prices at that level due to significant barriers to entry.
ESAA	Proposed definition is sustainably raising prices above the LRMC. (p5)	The Commission's proposed definition of 'substantial market power' set out in section 2.2 of this paper is similar to the definition proposed by the ESAA. It requires an ability to increase the annual average wholesale price to a level that exceeds LRMC, and the ability to sustain prices at that level due to significant barriers to entry.

Stakeholder	Issue	AEMC Response
Hydro Tasmania	Notes that market power has been defined in various court cases. These cases have demonstrated that: - the essence of market power is the absence of constraint; - it serves no useful purpose to focus on the short run transitory situation; - competition is a dynamic process rather than a situation and must be assessed over time; - little if any weight will be given to short term effects or advantages readily corrected by market processes; and - to have market power implies having the ability to maintain raised prices or exclude competition for a significant period. (p8)	Noted. The Commission has considered competition law cases as one relevant source of information in reaching its view on the appropriate definition of substantial market power. The Commission's proposed definition of 'substantial market power' set out in section 2.2 of this paper reflects the factors noted by Hydro Tasmania.
Hydro Tasmania	Proposes that assessments and definitions of market power must consider whether a firm has the ability to: - raise prices above the competitive level (in this case being long run supply cost); - sustain these higher prices beyond the timeframe needed to allow for market responses, including new entry; - profitably raise prices on a sustained basis. (p23)	The Commission's proposed definition of 'substantial market power' set out in section 2.2 of this paper reflects the factors noted by Hydro Tasmania. The Commission proposes that the relevant cost measure is the LRMC of bringing forward or adding capacity to meet a specified increment in demand.
International Power	Proposes that a generator will not have market power unless it can behave persistently in a manner unconstrained by competitors, including the power to raise prices above competitive levels in a sustainable way. (p8)	The Commission's proposed definition of 'substantial market power' is set out in section 2.2 of this paper. It requires an ability to increase the annual average wholesale price to a level that exceeds LRMC, and the ability to sustain prices at that level due to significant barriers to entry. LRMC is considered to reflect the level of average prices that should exist in a workably competitive market.

Stakeholder	Issue	AEMC Response
International Power	Considers that existing regulatory oversight measures act as a form of constraint on the exercise of market power that should be considered when assessing whether a generator has market power. Examples of regulatory oversight include sections 46 and 50 of the CCA and the rebidding restrictions in clause 3.8.22A of the Rules.	Noted. The Commission has considered the application of these existing provisions when formulating its proposed definition of substantial market power. The Commission considers that the exercise of substantial market power may potentially be detrimental to the achievement of the NEO in circumstances where the relevant conduct does not breach these existing provisions.
LYMMCo	Considers that the AEMC should not seek to lower or change the test under the CCA. (p2)	This Rule change process cannot lower or change the test under the CCA. The Commission's role in considering the MEU's proposal is to assess whether the proposed Rule changes are likely to contribute to the achievement of the NEO. The Commission considers that the exercise of substantial market power may potentially be detrimental to the achievement of the NEO in circumstances where the relevant conduct does not breach the CCA.
LYMMCo	Proposes that the analysis of long run price options is the most likely indicator of market power, but does not in itself indicate the existence of market power. (p2)	The Commission's proposed definition of 'substantial market power' requires an ability to increase the annual average wholesale price to a level that exceeds LRMC, and the ability to sustain prices at that level due to significant barriers to entry. The Commission proposes that this analysis of long run prices and costs is the preferable measure of substantial market power, but acknowledges that it is not on its own determinative of whether an individual generator possesses substantial market power and additional tests may be required.
MEU	Notes that the MEU's proposed definition of market power is set out in its Rule change proposal. 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 and has market power. (p19)	The Commission's proposed definition of 'substantial market power' is set out in section 2.2 of this paper. The Commission's proposed approach differs from the MEU's proposal. This paper proposes that a more appropriate approach is to assess whether any generator has an ability to increase the annual average wholesale price to a level that exceeds LRMC, and sustain prices at that level due to significant barriers to entry.

Stakeholder	Issue	AEMC Response
NEM Generators' Group - Frontier report	Defines market power as the ability of an individual firm to withhold output of its product in order to increase the price of that product. The extent to which a firm can do this depends on whether it faces competitive constraints. (p5)	The Commission's proposed definition of 'substantial market power' is set out in section 2.2 of this paper. The Commission's proposed definition requires an ability to increase the annual average wholesale price to a level that exceeds LRMC, and the ability to sustain prices at that level due to significant barriers to entry.
NEM Generators' Group - Frontier report	Proposes that, given the importance of competitive constraints in limiting a firm's ability to exercise market power, the extent to which barriers to entry exist in a market is an important indicator of whether a firm holds significant market power. This is a more important indicator than whether prices are occasionally above costs. (p8)	The Commission's proposed definition of 'substantial market power' is set out in section 2.2 of this paper. The Commission agrees that the extent of barriers to entry is an important consideration, as reflected in the Commission's proposed definition.
NEM Generators' Group - Frontier report	Notes that firms price above marginal cost in many industries, especially in industries with high fixed costs, such as electricity generation. It is during such times that firms are able to recover their fixed costs. Market power should therefore be identified and assessed with a longer term perspective in mind - i.e. can a firm raise prices in such a way that it earns significant profits over time. The appropriate temporal definition reflects the time scale of decisions made by generators - i.e. a generator would be unlikely to exit or enter the market based on the price received in a single trading interval. (pp8, 11)	Noted. The Commission's proposed definition of 'substantial market power' in section 2.2 of this paper and proposed approach to market definition in section 2.4 acknowledge the importance of a longer term perspective.
Origin Energy	Considers that it is observationally difficult to distinguish between scarcity pricing and market power. Higher prices during the former serve to signal the need for investment and all generators to recover their LRMC. The issue is whether there are persistent high prices over time that result in recovering revenue in excess of LRMC with no new entry. (p6)	Noted. The Commission's proposed definition of 'substantial market power' in section 2.2 of this paper reflects these issues.

Stakeholder	Issue	AEMC Response
What is the appropriate definition of the 'exercise' of market power?		
AER	Considers that the AEMC should focus on whether economic withholding is of a sufficient scale to be of concern to the overall efficiency of the NEM, rather than using competition law concepts from the CCA to define whether there is an exercise of market power. (p6)	The Commission's proposed approach to the exercise of substantial market power is set out in section 2.3 of this paper. The Commission proposes not to adopt the CCA concept of 'taking advantage' to define the exercise of substantial market power in the context of the NEM. Economic withholding may be evidence of the exercise of substantial market power if it occurs to a sufficient extent and with sufficient frequency to cause annual average prices to exceed LRMC. However, the Commission considers that it is appropriate to adopt a broader definition that could also cover conduct other than economic withholding.
AER - Biggar report	Defines the exercise of market power as follows: 'A generator can be said to exercise market power when it systematically submits an offer curve which departs from its true, underlying, short-run marginal cost curve in order to influence the wholesale spot price it is paid and is therefore dispatched to a price-quantity combination which does not fall on its short-run marginal cost curve'. Considers that generators exercise market power by economic withholding of capacity - i.e. submitting an offer curve that does not reflect their SRMC curve. Incentive to exercise market power depends on the hedge position of the generator and the shape of its residual demand curve. (pp5, 10-11)	The Commission's proposed definition of the 'exercise' of substantial market power is set out in section 2.3 of this paper. The Commission proposes that the ability to bid above SRMC in a single trading interval is not enough on its own to constitute the exercise of substantial market power and justify regulatory intervention, and it is necessary to assess whether the generator has the ability to increase the annual average wholesale price to a level that exceeds LRMC. Economic withholding may be evidence of the exercise of substantial market power if it occurs to a sufficient extent and with sufficient frequency to cause annual average prices to exceed LRMC. However, the Commission considers that it is appropriate to adopt a broader definition that could also cover conduct other than economic withholding.
AGL	Proposes that the appropriate test to determine whether a generator has exercised enduring market power should be whether it has been able to sustain wholesale prices in excess of its costs over the long term. The relevant cost test is LRMC. (p16)	The Commission's proposed definition of the 'exercise' of substantial market power set out in section 2.3 of this paper is similar to the test proposed by AGL.

Stakeholder	Issue	AEMC Response
AGL	Considers that the tests for determining the exercise of market power in the NEM should not rely too heavily on competition law. (p16)	The Commission proposes not to adopt the competition law concept of 'taking advantage' to define the exercise of substantial market power in the context of the NEM.
Energy Action Group	Considers that the MEU's proposal appropriately addressed this issue. Considers that the issue of information asymmetry also needs to be addressed. A generator's contract position also acts as a behavioural driver. Uncapped and non-transparent nature of the ancillary service payment market provides gaming opportunities. Also large scale penetration of renewable energy may favour some generators so they can exercise market power. Considers that there are inter-related issues of access and who pays for transmission extension and augmentation. Long lead times plus barriers to entry and relatively low long term profit margins for some technologies leave incumbent generators in a position to exercise market power. (p3)	The Commission's proposed definition of the 'exercise' of substantial market power is set out in section 2.3 of this paper. The Commission's proposed approach differs from the MEU's proposal. The Commission's proposed approach assesses whether any generator has the ability to increase the annual average wholesale price to a level that exceeds LRMC, and sustain prices at that level due to significant barriers to entry. The Commission agrees that a generator's contract position is relevant to its incentive to exercise substantial market power, and that barriers to entry are important. Issues of access and charges for transmission extensions and augmentations are outside of the scope of this Rule change and are currently being considered by the Commission as part of its Transmission Frameworks Review.
Hydro Tasmania	Considers that matters to be considered when determining whether a participant is able to exercise market power include countervailing power and the presence or absence of constraints. Network constraints, generator availability, contract positions and co-optimisation with ancillary services can impose significant alternative costs on generators or limit their availability. Such constraints can influence a firm's ability to exercise market power. (pp14-16)	Noted. The Commission acknowledges that some or all of these matters may affect a generator's ability to exercise substantial market power.
MEU	Considers that existing CCA tests are inappropriate here. Electricity market rules used in other jurisdictions show that generator market power must be addressed within the rules due to the unique features of electricity. (p20)	The Commission proposes not to adopt the CCA concept of 'taking advantage' to define the exercise of substantial market power in the context of the NEM.

Stakeholder	Issue	AEMC Response
NEM Generators' Group - Frontier report	Considers that the existing tests for whether market power has been exercised as defined in competition law are not appropriate. This is because the statutory regime set out in the NEL is concerned with promotion of efficiency in the market, not with competitive effects. (p13)	The Commission proposes not to adopt the CCA concept of 'taking advantage' to define the exercise of substantial market power in the context of the NEM.
TRUenergy	Considers that the current competition law tests for taking advantage of and abusing market power are the appropriate tests in the context of the Rule change request. (p4)	The Commission proposes not to adopt the competition law concepts of 'taking advantage' or 'abuse' of market power to define the exercise of substantial market power in the context of the NEM. The Commission considers that the exercise of substantial market power may potentially be detrimental to the achievement of the NEO even if that market power is not 'taken advantage of' or 'abused' as those terms are defined under competition law.
What is the relevant 'market'?		
AGL	Proposes that in defining the market to be analysed, the AEMC should consider all the factors that may influence a generator's decisions regarding pricing and output. The main purpose of market definition is to identify what forces act within a market and influence the decision making processes of a participant. The AEMC should err on the side of a broader market definition. (pp24-25)	The Commission's proposed approach to market definition is set out in section 2.4 of this paper. The Commission acknowledges that there is some uncertainty about the precise boundaries of some aspects of the market, particularly the geographic and temporal dimensions, but does not consider that it is appropriate to intentionally err on the side of a broader market definition.
AGL	Proposes that the product and functional dimensions of the market are the wholesale NEM, and the trading of wholesale energy within that market, consistent with the *AGL v ACCC* decision. (p14)	The Commission's proposed approach to market definition is set out in section 2.4 of this paper. The Commission proposes that the relevant product is electrical energy supplied to the wholesale market and the functional dimension is electricity generation.
AGL	Considers that the interconnected nature of the NEM suggests that the whole interconnected NEM is the appropriate geographic scope. However, this may be limited by the extent of inter-regional congestion, which should be taken into consideration. (p14)	The Commission's proposed approach to market definition is set out in section 2.4 of this paper. The Commission has not yet reached a view on the appropriate geographic market, but proposes a test in section 2.4.2 to determine that issue. The extent of interconnector constraints will be a key issue when applying that test.

Stakeholder	Issue	AEMC Response
AGL	Proposes that the appropriate temporal dimension of the market should reflect generators' considerations of the time necessary to earn a commercial return for their investment. This indicates that the appropriate temporal dimension should be longer than a single trading interval. (p14)	The Commission's proposed approach to market definition is set out in section 2.4 of this paper. The Commission's proposed temporal dimension is at least one year, and potentially two to three years.
Hydro Tasmania	Considers that a number of issues need to be considered for market definition: - product dimension: the spot market is not necessarily the appropriate product dimension of the market. Generators make choices between exposure to spot, hedge and FCAS markets; - geographic dimension: regional definitions do not necessarily define the market; - functional dimension: vertical integration means both generators and retailers may need to be included in the market definition; - temporal dimension: the relevant timeframe needs to allow for market responses. (pp12-13)	The Commission's proposed approach to market definition is set out in section 2.4 of this paper.
International Power	Considers that the temporal market dimension involves long run considerations and long term substitution possibilities, as shown by CCA cases. The ACCC recognises that geographic market definition needs to consider the interrelationship between NEM regions and the effect of interconnectors. The ACCC has stated that when assessing the constraint provided by generators outside of a region, it is useful to think of an interconnector as a generator with a variable marginal cost. Cites examples where the ACCC has considered the relevant NSW market to include the Victoria and Queensland interconnectors. Considers that the consistent position of the ACCC is that, but for interconnector constraints from time to time, the geographic dimension of the wholesale market would be the whole of the NEM. (pp18-20)	The Commission's proposed approach to market definition is set out in section 2.4 of this paper. The Commission's proposed temporal dimension recognises that a long term approach is appropriate. The Commission has not yet reached a view on the appropriate geographic market, but proposes a test in section 2.4.2 to determine that issue. The extent of interconnector constraints will be a key issue when applying that test.

Stakeholder	Issue	AEMC Response
NEM Generators' Group - Frontier report	Proposes that market definition should reflect the factors that are likely to constrain the pricing and output behaviours of generators. Notes that market definition should not be considered an end in itself - rather, its main purpose should be to help identify the forces that operate in a market. (p10)	The Commission's proposed approach to market definition is set out in section 2.4 of this paper. The Commission agrees that a purposive approach should be taken to market definition.
NEM Generators' Group - Frontier report	Proposes that the AEMC should err on the side of a larger market definition rather than a narrower definition, especially if minor changes in the definition of the market could lead to large changes in either arguments or conclusions. (p10)	The Commission acknowledges that there is some uncertainty about the precise boundaries of some aspects of the market, particularly the geographic and temporal dimensions, but does not consider that it is appropriate to intentionally err on the side of a broader market definition.
NEM Generators' Group - Frontier report	Considers that the interconnected nature of the NEM suggests that the appropriate geographic market should be national rather than state based and should consider the ability of generators in different regions to constrain each other's behaviour. However, binding constraints on interconnectors can limit the ability of generators in one region to supply consumers in other region, so the assessment of the geographic market should also consider the extent of these constraints. (p11)	The Commission has not yet reached a view on the appropriate geographic market, but proposes a test in section 2.4.2 to determine that issue. The extent of interconnector constraints will be a key issue when applying that test.
Origin Energy	Considers that the MEU's proposal has taken an overly narrow view of the market both in terms of geography and time. Argues that this approach leads to a number of misleading outcomes and implies that high price events are solely as a result of strategic bidding and the exercise of market power. The focus on spot prices also discounts the critical role of the financial contracts market in managing the effects of the NEM's inherent volatility. (p2)	The Commission's proposed approach to market definition is set out in section 2.4 of this paper. The Commission's proposed temporal dimension recognises that a long term approach is appropriate. The Commission intends to consider the contracts market when assessing whether any generators have substantial market power.

Stakeholder	Issue	AEMC Response
Origin Energy	Notes that the MEU has taken a regional view of the market in its analysis, which may reflect price separation that occurs between markets. However, a NEM-wide view of the market is more appropriate because: - mainland regions generally operate as an integrated market with prices aligned for the majority of the time; - measures designed to curb the perceived exercise of market power cannot be regionally confined and will have market-wide implications, therefore it is necessary to consider whether the proposed solution is proportional to the perceived issue; - price separation due to interconnector constraints could be reflective of deficiencies in transmission planning and investment frameworks, therefore there may be a need to address these problems directly rather than implement a market power Rule change to deal with the consequences; - increased interconnection will facilitate competition and further reduce potential opportunities for exercise of market power; and - there is a strong judicial preference for dealing with market power issues on a NEM-wide basis, as demonstrated in *AGL v ACCC*. (pp8-10)	The Commission has not yet reached a view on the appropriate geographic market, but proposes a test in section 2.4.2 to determine that issue. The extent of interconnector constraints will be a key issue when applying that test. The Commission has had regard to French J's comments in *AGL v ACCC* in reaching its views on market definition, but notes that French J's analysis was based on events in Victoria in 2000-2001 and a more comprehensive and up-to-date analysis is required to determine the appropriate geographic market.
TRUenergy	Proposes that the appropriate definition of the market should only include the wholesale exchange operated by AEMO. The geographical extent of the market is the interconnected regions in the NEM. The relevant timeframe is the time needed develop new investment that will compete away any excess profits. (p4)	The Commission's proposed approach to market definition is set out in section 2.4 of this paper. The Commission proposes that the relevant product is electrical energy supplied to the wholesale market. The Commission has not yet reached a view on the appropriate geographic market, but proposes a test in section 2.4.2 to determine that issue. The Commission's proposed temporal dimension is at least one year, and potentially two to three years, with the longer period reflecting the period in which new entry or expansion should occur in the absence of significant barriers to entry.

Stakeholder	Issue	AEMC Response
Should the AEMC consider 'tacit collusion' as part of this Rule change process?		
Energy Action Group	Considers that the Rule change should also attempt to address tacit collusion and parallel behaviour, but notes that Australia is historically not good at prosecuting such behaviour without access to a whistle-blower and appropriate documentation. (p6)	The Commission proposes that tacit collusion should not be considered as part of this Rule change process. The MEU's proposal does not seek to address tacit collusion, and if tacit collusion is an issue it is likely to be more appropriate for it to be addressed by the CCA.
MEU	Notes that the MEU's proposal addresses the potential for tacit collusion by providing that where the AER identifies that a second generator has market power at a higher demand it has the ability to declare a second dominant generator. (p25)	Noted.
MEU	Notes that the MEU considered tacit collusion in its examination of potential solutions, but determined that the increased complexity of addressing an issue that might not occur (other than through the 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. (p25)	Noted. The Commission proposes that tacit collusion should not be considered as part of this Rule change process.
NEM Generators' Group - Frontier report	Considers that the threat of tacit collusion is poorly justified. If it is an issue, it should continue to be dealt with under the CCA. There should not be a separate rule for what constitutes collusive behaviour in the NEM compared to elsewhere in the Australian economy. (p39)	Noted. The Commission proposes that tacit collusion should not be considered as part of this Rule change process. The Commission agrees that if tacit collusion is an issue it is likely to be more appropriate for it to be addressed by the CCA.

Stakeholder	Issue	AEMC Response
Does the AEMC have the power to make the MEU's proposed Rule?		
AFMA	Considers that there are adequate existing measures in place to address market power concerns and no requirement for, or benefit in, duplication. The AEMC needs to analyse the efficiency of the NEM and whether market signals, including price volatility, are appropriate and drive investment and meet the long term interests of consumers. But a general AEMC discussion of market power may not be desirable. The MEU proposal should be discounted as soon as possible, to remove it as a threat to the market's confidence. Any concerns entities may have with market power should be directed to the appropriate regulator and dealt with in a separate process under existing legislation. Whatever the outcome of any AEMC investigation into market power, the MEU proposal would not be a suitable solution. As such, AFMA does not support keeping the proposal on the table while any such investigation is undertaken as proposed in AEMC's assessment framework decision tree. (p14)	The Commission recognises that the implementation of the MEU's proposal is likely to have a significant impact on some market participants and investment incentives, and that the mere existence of the proposal may have an impact on some participants. However, because of the significant potential effects of the proposal, the Commission considers that it is appropriate to undertake a thorough consideration of the proposal before making a decision.
AGL	Considers that the MEU's proposed rule is clearly about modifying the behaviour of some participants at certain times. Argues that the AEMC is limited in its power under section 34(1)(a)(i) of the NEL to making rules in relation to regulating the operation of the "wholesale exchange operated and administered by AEMO" and the "national electricity system", and it is not empowered to make Rules generally regarding the behaviour of sellers and buyers within the wider economic or wholesale market. (pp1-2)	This argument is addressed in section 4.4.1 of this paper. The Commission does not agree with AGL's interpretation of section 34(1)(a)(i) of the NEL. The Commission considers that the MEU's proposal relates to the operation of the 'national electricity market' as defined in section 2 of the NEL, and does not seek to regulate the behaviour of generators 'within the wider economic or wholesale market'.

Stakeholder	Issue	AEMC Response
ESAA	Considers that the issues raised by the MEU's proposal come within the CCA framework and there is no case for the AEMC to be examining issues of anti-competitive use of market power. (p2)	The MEU's proposal does not relate to the anti-competitive use of market power, and the Commission will not be assessing whether any generators have engaged in anti-competitive conduct. Instead, the Commission will assess whether the MEU's proposed Rule, or a more preferable Rule to prevent or constrain the exercise of substantial market power by generators, will promote the achievement of the NEO. The Commission considers that the exercise of substantial market power may potentially be detrimental to the achievement of the NEO in circumstances where the relevant conduct does not breach the CCA.
International Power	Argues that the monetary constraint on dispatch offers imposed by the MEU's proposal may be seen as a penalty, in substance if not form, and is therefore contrary to section 36(b) of the NEL (AEMC must not make Rules that provide for criminal or civil penalties for breaches of the Rules), and would not fall within item 7 of schedule 1 to the NEL (setting of prices for electricity purchased through the wholesale market, including maximum prices) or section 34(3)(d) (Rules may confer rights or impose obligations on a person or class of person). (p13)	This argument is addressed in section 4.4.2 of this paper. The Commission does not agree with International Power's interpretation of section 36(b) of the NEL. The MEU's proposed Rule does not (in substance or in form) provide for a criminal or civil penalty for a breach of the Rules. It proposes that a price cap (the existing Administered Price Cap) would apply to dispatch offers in certain circumstances. The imposition of such a price cap falls within items 7 and/or 8 of Schedule 1 to the NEL.
International Power	Argues that the stated purpose of the MEU's proposal contravenes clause 3.1.4(b) of the Rules. Considers that if the AEMC proceeds with a decision to perform or confer powers on AER to perform functions in relation to anti-competitive market behaviour by participants, then it is going beyond section 91B(1) because such a Rule is not necessary or consequential to the MEU's requested Rule. Considers that if the AEMC wishes to make a Rule that confers on itself, the AER, AEMO or a jurisdictional regulator, powers in relation to competition issues, the AEMC is first required to conduct a review under section 45 of the NEL and provide a report to the MCE. (p14)	This argument is addressed in section 4.4.2 of this paper. The Commission does not agree with International Power's interpretation of sections 45 or 91B(1) of the NEL. The Commission notes that the MEU's proposal attaches a draft Rule that includes an amendment to clause 3.1.4(b) of the Rules. Accordingly, the Commission considers that section 91B(1) of the NEL is not relevant and an amendment to clause 3.1.4(b) of the Rules is not a consequential amendment under section 91B(1). The Commission also considers that section 45 of the NEL is not relevant, particularly given that the MEU has expressly proposed an amendment to clause 3.1.4(b) of the Rules. Division 3 of Part 7 of the NEL clearly authorises the AEMC to make a Rule change that is proposed in a Rule change request.

Stakeholder	Issue	AEMC Response
International Power	Considers that the AEMC should separately, and prior to contemplating any rule change seeking to further erode generators' ability to achieve revenue adequacy, conduct a holistic review of the entire NEM trading arrangements in the context of recent international experience. (p5)	The AEMC is required by the NEL to make a determination whether to make the MEU's proposed Rule or a more preferable Rule. The AEMC does not consider that there is currently a justification to self-initiate a wide-ranging review of the entire NEM trading arrangements prior to making that determination.
LYMMCo	Considers that the AEMC is not the appropriate body to consider the issues raised by the MEU's proposal because it includes issues regarding competition laws and policies outside the AEMC's remit. Considers that the existing competition law framework provides the appropriate avenue for addressing such issues, and concerns regarding market power should be directed to the ACCC. The AEMC should confine any discussion to the existing provisions governing market power, and should be cautious about second-guessing the courts' approach. (pp1, 2, 6)	Although competition law and policy may be one of several useful sources of information when considering the MEU's proposal, the MEU's proposed Rule changes do not directly relate to competition law matters. The Commission's role is to assess whether the MEU's proposal is likely to contribute to the achievement of the NEO. The primary considerations when making that assessment relate to economic efficiency not competition law and policy. The Commission considers that the exercise of substantial market power may potentially be detrimental to the achievement of the NEO in circumstances where the relevant conduct does not breach the CCA.