Major Energy Users Inc.

COMMENTS ON THE

AEMC FIRST INTERIM REPORT

ON

REVIEW OF ENERGY MARKET FRAMEWORKS

IN

LIGHT OF CLIMATE CHANGE POLICIES

by

Major Energy Users Inc

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CONTENTS

Executive summary

The Major Energy Users Inc (MEU) provides its views on the AEMC'S First Interim Report on behalf of its affiliated members (Energy Markets Reform Forum, Energy Consumers Coalition of South Australia, Energy Users Coalition of Victoria, the Northern Territory Major Energy Users and Western Australia Major Energy Users).

There is generally an implicit assumption in the Australian Government's policy approach to the reduction in carbon emissions, for markets to play a leading, if not a major role, in delivering the emissions targets, notwithstanding the fact that these are massive government policy interventions and timelines for meeting these objectives are limited. It must be noted that for markets to have to manage such large political interventions, significant pressures are imposed on the markets themselves.

Because the Carbon Pollution Reduction Scheme (CPRS) and the expanded renewable energy target (RET) will have major price and non-price impacts on consumers, it is imperative that there is careful examination of the concerns of consumers as to whether the energy market will provide the efficiencies and optimal outcomes that should flow from a well functioning competitive market, i.e. driving efficient solutions to carbon emissions. In this regard, we point out that the introduction of CPRS and RET could introduce more volatility in the wholesale electricity market, thereby raising risk premiums and final electricity prices. Such volatility could also raise arbitrage opportunities. The overall effects are to raise prices beyond levels pertaining in more efficient markets.

Because of the significant price impacts, it is beholden on the AEMC to assess, not only whether the existing frameworks can accommodate these massive government interventions, but also whether there is a better framework (ie changes) which would drive greater efficiencies and reduce costs for consumers and assist in achieving the government goals of carbon emission reductions.

Unfortunately, the AEMC has partially addressed only the first of these two fundamental questions. Because of this, the AEMC is not only potentially exposing consumers to unnecessary price risks but also implicitly potentially undermine the very government aims and aspirations that have triggered this AEMC investigation in the first instance.

MEU asks:

- Are energy market frameworks capable of meeting the targets set by the CPRS and RET and in the time scales established by governments?
- Are consumers potentially exposed to inefficient energy price increases?

- What reforms are needed and what additional regulatory and investment measures (to supplement market reforms) are needed to ensure that policy targets can be met consistent with the national energy markets frameworks objective of meeting "the long term interests of consumers"?

- Is the approach recommended by the AEMC likely to assist in achieving the governmental goals of carbon reduction?

- Is the AEMC going to carryout detailed costing analyses and modelling to support the conceptual conclusions it reaches, both in terms of costs to be passed onto consumers and assisting in achieving the carbon reduction goals?

The MEU supports the AEMC's stated desired outcomes for the efficient operation or energy markets, but considers that additional outcomes from the perspective of consumers need to be adopted, consistent with achieving the long term interests of consumers.

The MEU **does not** agree with the AEMC view that the current energy market "frameworks are robust". Major concerns have been identified by consumers and key stakeholders, including competition and arbitrage concerns. Yet these have been ignored. This is of grave concern to the MEU.

The MEU also recommends that the AEMC review should include detailed examination of:

- capacity mechanisms rather than reliance on an energy only market,

- how to ensure that the electricity system operation:

    - Recognises the resultant impact on the gas supply system and how the current (effectively unregulated) gas transmission and supply systems will respond to the expected large increase in gas demand
    - Does not impede non-fossil fuel integration into the market
    - Maximises the integration of renewable energy sources,
    - Increases energy efficiency responses in the electricity supply chain

- Allows the active incorporation of demand management responses
- Mitigates the expected substantial price rises as a result of integrating CPRS and RET policy targets into the energy market frameworks.

The AEMC's review will send very significant signals for investment decisions by large industrial users in this economy over the next decade. Unless the costs to down stream users of electricity and gas are at economically efficient levels, there exists a very real possibility that down stream users (particularly industry) will relocate operations and move off-shore. Therefore, the AEMC must address the expected costs resulting from how the current energy markets frameworks will manage the expected impacts, and it must also investigate whether there are lower cost ways of achieving the same outcome.

By the AEMC addressing the experiences in the NEM, WEM and NT as separate markets to be considered as part of their review, it has identified a number of positive features of particularly the NEM and the WEM, as well as the detriments which apply. For example, the WEM appears to be delivering, if anything, too much new investment in generation, whereas the NEM is suffering from too little new generation investment, especially in the base and intermediate generation range.

The MEU sees that rather than examining each of these markets to the exclusion of each other, there is considerable benefit in identifying where the features of one might assist in improving the other where the impact of the RET and CPRS is creating concerns.

Overall, the MEU is disappointed with the First Interim Report for the reasons set out in the submission, including its obvious reluctance to assess a range of issues that are considered important from the perspective of consumers. Also, the AEMC must provide analysis in support of a number of its key conclusions.

This submission by the MEU provides an overview of how consumers see the issues raised in this review by consumers in the NEM regions as well as WA and NT. It responds to the specific questions posed by the AEMC's First Interim Report for all the regions of the NEM, WEM and NT.

1. Overview

1.1 Introduction

The Major Energy Users Inc (MEU) welcomes the opportunity to provide comments on the AEMC'S First Interim Report. This response is made by the MEU on behalf of its affiliated members (Energy Markets Reform Forum, Energy Consumers Coalition of South Australia, Energy Users Coalition of Victoria, the Northern Territory Major Energy Users and Western Australia Major Energy Users).

There is generally an implicit assumption in the Australian Government's policy approach to the reduction in carbon emissions, for markets to play a leading, if not a major role, in delivering the emissions targets, notwithstanding the fact that these are massive government policy interventions and timelines for meeting these objectives are limited. It must be noted that for markets to have to manage such large political interventions, significant pressures are imposed on the markets themselves.

When viewed in this light the approach by the AEMC must be to evaluate deeply every major aspect of the potential impacts on the energy market frameworks. What the MEU has seen so far is that the AEMC has taken a view that the energy markets frameworks can accommodate the interventions (subject to some defined changes) and has, therefore, tended to gloss over impacts that might be considered to negatively impact the efficient operation of energy markets from the standpoint of consumers.

This is bizarre as the energy policy and the existing energy market frameworks, have been anchored on the central role of markets to deliver efficient outcomes "in the long term interests of consumers".

Consumers see that the introduction of CPRS and RET could introduce more volatility in the wholesale electricity market, thereby raising risk premiums and final electricity prices. Such volatility could also raise arbitrage opportunities. The overall effects are to raise prices beyond levels pertaining in more efficient markets.

Because the Carbon Pollution Reduction Scheme (CPRS) and the expanded renewable energy target (RET) will have major price and non-price impacts on consumers, it is imperative that there is careful examination of the concerns of consumers as to whether the energy market will provide the efficiencies and optimal outcomes that should flow from a well functioning competitive market, i.e. driving efficient solutions to carbon emissions.

1.2 Do we have the best analytical framework for this review?

The AEMC's review has been tasked by the MCE. The MCE seeks to be informed if the energy market frameworks can adequately manage the impacts that are likely to result from the introduction of an expanded RET scheme, and of the Carbon Pollution Reduction scheme being introduced by the Commonwealth government.

As a **first** step the AEMC should look into what the RET and CPR schemes are intended to achieve. Ultimately both are intended to reduce the amount of carbon emissions generated into the atmosphere. Thus as a first step the AEMC should look at the current frameworks to assess whether these could meet government's emissions objectives and whether they actually militate against the stated aspirations of the Government – that of reducing carbon emissions.

A **second** step is for the AEMC to analyse whether there are better solutions than the current market frameworks to achieve reductions in carbon emissions from the energy markets.

There is no doubt that the introduction of the expanded RET and CPR schemes will result in a direct increase in costs for consumers. There is equally little doubt that there will be significant indirect costs for consumers that will result in adjusting the energy networks to be able to accommodate the increases in renewable generation and lower carbon emitting generation.

Therefore as a **third** step the AEMC should assess whether the introduction of the RETS and CPRS will increase costs for energy transport and management of the markets, and look to ways of reducing these costs by making changes to the current market frameworks.

What the AEMC appears to have embarked on is to assume that the current market frameworks are able to manage the introduction of the expanded RETS and CPRS and then to identify where the introduction of these may increase the difficulty of the market frameworks to accommodate the planned changes.

There is little doubt in the view of MEU that the introduction of these massive government interventions will cause difficulties in the energy markets frameworks to manage their resultant impacts, and, just as importantly, the costs resulting from the approaches to achieving the management of them. Such issues as reduced competition and mitigating the potential increased exercise of market power, increased congestion, and NEM thermal efficiency (a major driver of carbon

emissions) all need to be addressed, along with incentives to provide the necessary actions to achieve both efficient costs and maximum carbon emission reductions.

Whilst some of these issues are addressed by the AEMC such as congestion and cost allocations; unfortunately, the AEMC has not identified or addressed all of the issues that they should have had they taken a more holistic approach to maximising efficiency of costs and maximising carbon emission reductions. These are issues raised later in this submission.

1.3 The current energy markets frameworks

The AEMC's review needs to carefully identify and examine any identified market failure or imperfections (including shorter term ones) in the existing energy market frameworks. If, for example, market responses to RETS and CPRS are likely to be inadequate under the current frameworks, then the AEMC would need to advise that attention needs to be given either to reform the market or to seek alternative policy instruments of regulation and direct intervention.

MEU asks:

- Are energy market frameworks capable of meeting the targets set by the CPRS and RET and in the time scales established by governments?
- Are consumers potentially exposed to inefficient price increases?
- What reforms are needed and what additional regulatory and investment measures (to supplement market reforms) are needed to ensure that policy targets can be met consistent with the objective of meeting "the long term interests of consumers"?
- Is the approach recommended by the AEMC going to assist in achieving the governmental goals of carbon reduction?
- Is the AEMC going to carryout detailed costing analyses and modelling to support the conceptual conclusions it reaches both in terms of costs to be passed onto consumers and assisting in achieving the carbon reduction goals?

The AEMC's First Interim report makes a number of key findings in terms of the desired outcomes from the operation of energy markets. These are unexceptionable and are based on the expectation that the markets would need to address:

- **Reliability** to deliver investment in different forms of new generation capacity at the right time and location, and at efficient cost;

- **System operation** to allow networks to be operated safely and securely, keeping voltage and frequency within the desired tolerances;

- **Networks** to support the market, promote investments to connect new network users and handle changing patterns of network use that are planned effectively and delivered at efficient cost; and

- **Retailing** to promote effective competition between retailers and to protect consumers in respect of the prices they pay through regulation where effective competition is not present.

The MEU supports those findings, but considers that the AEMC should adopt the following **additional points** that need to be addressed in respect of desired outcomes *from the perspectives of consumers*:

- **Reliability** to deliver generation capacity must also increase investments in the **associated infrastructure**, in order to maintain a secure supply. This means that markets must not only deliver a return on investments, but also efficient price levels to consumers and operational procedures and processes that do not contain significant barriers to entry.

- **System operation** to allow safe operation and networks should also allow organisation of generation to **maximise system wide thermal efficiency** through the scheduling of the most efficient and low carbon emitting plant. This means that wholesale prices should be closely reflective of marginal cost. For example, if the system dispatch is based purely on price (as now) will this increase the overall cost of generation if more carbon is emitted per MWh?

- **Networks** must be augmented to manage the low load factors for many alternative forms of renewable generation, and to connect these new generation options to the existing network. This will require extensive augmentation of the networks and significant additional network connections. There is a need to identify how the Rules will be applied to this new work and who will be required to fund the investments

- **Retailing structure** to promote competition between retailers is insufficient – an **industry structure** (or where appropriate, the regulatory structure) that provides for a real competitive market environment is essential, so that competitive pressures can encourage innovation and efficiency across the energy chain, viz, production, transportation, distribution and consumption.

The MEU considers that these additional "desired outcomes" together with those arrived at by the AEMC's First Interim report, need to be met if energy markets are to be fully effective in the context of meeting the objectives of government policies for reducing carbon emissions.

1.4 Reliability and the NEM

Under the current electricity supply arrangements the AEMC Reliability Panel sets the amount of "unserved electricity" or USE that is acceptable for all regions of the NEM. Currently, this is set at 0.02%. To achieve this level of unserved electricity the Reliability Panel sets VoLL, which is a market price cap. Thus reliability in the NEM is obtained through the signals emanating from VoLL.

By observation, the very high value for VoLL has resulted essentially in encouraging the installation of peaking generators, and the ostensible reason for this is that retailers see having their own peaking generators provides them with a physical hedge against high spot prices.

Little or no base load or intermediate merit generation has been built in response to high spot prices, and again the reason is logical. If the base load generator was developed based on a high average regional price where this high regional price was the result of a very few price excursions (see attachments A and B), then its very existence would reduce the ability of a marginal high price generator to be dispatched. The result of building the new base/intermediate generator would be an overall reduction in the average spot price, and eliminating the price premium the developer expected.

In other word, reliability in the NEM has been achieved at the expense of higher prices as the high VoLL has not signalled the construction of a more **competitive** mix of generation capacity.

VoLL is of course a blunt instrument and its continued reliance, in light of RET and CPRS, will draw out the tensions between reliability and competitive market outcomes. It will also militate against the need of the NEM to increase its overall thermal efficiency of the combined generation mix.

The very basis of achieving reliability in the NEM is dependent on tools which act against the aspirations of the government to reduce the carbon footprint of the NEM.

1.5 Summary

The AEMC needs to take a wider view of the review rather than its current limited approach.

The MEU sees that the AEMC needs to expand its range of issues that need to be assessed within the issues it has identified for attention.

These considerations are expanded further in the submission, which follows the structure of the AEMC's First Interim Report.

2. Issues raised by the AEMC

2.1 Issue A1: Convergence of gas and electricity markets

Chapter Summary

This chapter assesses the issue of increased convergence of gas and electricity markets. The CPRS and expanded RET are expected to increase the level of gas-fired generation as there is a move away from carbon intensive fuels such as coal. The interactions and reliance between the gas and electricity markets therefore becomes important. We consider that the existing frameworks are capable to cope with the changes that may result due to the CPRS and expanded RET.

Questions

A1.1 Do you agree that the convergence of gas and electricity markets is not a significant issue in the eastern states and therefore should not be progressed further under this Review? If not, what are your reasons for asking us to reconsidering this position?

The MEU agrees with the AEMC (subject to the additional points made above relating to desired outcomes) that:

> "The desired market outcome is for market arrangements to support competitive and efficient and timely trading and investment in gas and electricity markets across a wide geographical area and for a range of demand profiles" (AEMC, p.11).

The additional costs of climate change policies (CPRS and RET) will be reflected in the offers made by generators, the mix of generator despatch, and in turn affect the wholesale clearing prices, and ultimately the prices for electricity paid by consumers. The prices paid by consumers will clearly increase, but, the increases will vary depending on the extent of the switch from coal to gas fired generation and on the carbon price level, with the threshold price increases rising as gas prices rise.

However, the increases in wholesale prices, and hence prices consumers face, can be mitigated by the penetration of wind and other renewable energy resources and by more efficient operation of the energy markets (such as generation despatch[1]) and demand

[1] The MEU points out that the thermal efficiency of the NEM has been consistently falling due to bidding practices of generators. This reducing thermal efficiency directly impacts the stated aims of government for greater thermal efficiency throughout the supply industry and by all

management responses. These should be the **competitive** price levels that will pertain in a fully-functioning competitive market, providing that there are competitive market arrangements in place, in the light of these government-sanctioned interventions.

The MEU is not convinced with the AEMC view that the current energy market

> "frameworks are robust" (AEMC, p.12)

The MEU points out that there have been observations made in the stakeholders' committee forums discussing the issues, that there is significant concern by some members of the committee that the markets (especially the electricity market) are not operating efficiently and are not "robust". (These concerns were also raised in submissions). For the AEMC to observe that:

> "The frameworks will continue to support competitive and efficient and timely trading and investment in gas and electricity markets across a wide geographical area and for a range of demand profiles". (AEMC, p.12).

is not a universally shared view and a number of consumer advocates (eg UnitingCare Wesley Adelaide in its response to the AEMC review of electricity retail price caps in South Australia) would agree with the MEU about the AEMC being so "certain" in its view. We note that the immediate past CEO of NEMMCo (as have major end users) had also voiced concerns about the market's ability to be fully competitive even now, let alone with the added pressures brought to bear by the RET and CPRS, and especially with the expected increase in congestion and network constraints . Therefore, it is beholden on the AEMC for it not only to address the concerns raised but to also analyse them to ensure that its report to Ministers adequately reflects such consumer concerns.

The MEU observes (including in its initial submission to this review) that the electricity market in recent years has exhibited the following characteristics that have a major impact on the competitiveness of the market:

- Increasing concentration in the generation and retail sectors
- Increasing reintegration of the generation and retail sectors

with the following observed consequences:

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end users. This issue was raised in the MEU's initial submission, but the AEMC's First Interim Report appears to be silent on the matter.

- Increasing volatility and incidence of price spikes above $300/mwh (see attachment A which shows that the impact of a few price spikes in a year can cause immense increased costs to consumers)
- Increasing risks and hence risk premiums
- Increasing incidence of economic withdrawal of generation capacity
- Increasing exercise of market power
- Increasing barriers to new entrants in generation and retail and exiting of second tier retailers from the market. [It is interesting to note, for example, that the AEMC observed in its reports addressing removal of electricity price caps in South Australia that second tier retailers had exited the market. The ostensible reason given was that second tier retailers could not operate within the price cap, but this would appear to be inconsistent with the observation that the "gentailers" were still active and profitable. The countervailing view to that of the AEMC, is that the second tier retailers were not able to secure competitive offers from the generators in the region, as most generators are "gentailers" and therefore did not want to provide hedges(or they were not available, at competitive prices) to their competing second tier retailers. This latter view has been confirmed by observations by large consumers and some second tier retailers]
- Limited retail competition has been identified by major end users
- Limited demand side responses (most notably during the recent heat wave of 29 – 31 January 2009) as more effective demand side responses require some guarantee of reward for reducing production, and this is only available in the NEM when NEMMCo initiates Reserve Trader activity[2]. There is significant concern that available demand side responsiveness is not used because of the market structure used in the NEM

The MEU notes that a number of stakeholders have raised these issues (especially in the context of increasingly more complex energy markets due to the extent of government interventions), yet they appear to have been dismissed by the AEMC without, apparently, any analysis carried out, whether contrary or otherwise, to assess the legitimacy of the AEMC position.

We note that the AEMC observes that:

> "The Energy Supply Association of Australia (ESAA) and Origin Energy both noted that it was important for NEM price caps to be set at

[2] Compare this to WA where a capacity market in generation applies. Here there is adequate generation able to provide long term contracts and demand side responses sufficient to manage short term high demand spikes

> a level that recognised the value of gas but did not create incentives for arbitrage between the two markets". (AEMC, p.15)
>
> and that:
>
> "Very few stakeholders commented specifically on the potential for arbitrage opportunities between the gas and electricity markets. Only the Major Energy Users (MEU) offered an observation that arbitrage activities in New South Wales in July 2007 resulted in a loss of gas supply to major users.
>
> Currently there does not appear to be any evidence suggesting a high risk of arbitrage opportunities arising from greater interdependence between the gas and electricity markets. The potential issues arising may relate to the reliability and security of supply". (AEMC, p.15).

That the AEMC dismisses the concern raised by MEU regarding the risk of arbitrage opportunities on the basis there is no evidence, is totally inappropriate. It may be that there has not been the potential in the past for such arbitrage issues to become apparent. That an arbitrage opportunity certainly did occur in NSW in July 2008 is not doubted, as the NSW government took immediate action to ensure a similar gas shortage did not re-occur.

The effect of arbitrage is not just related to the use of gas to make electricity. With the well identified concentration of ownership and control in the energy markets, arbitrage has already become a tool for the market players to create profit opportunities, covering not only gas to electricity arbitrage but in the supply of the various methods of risk management. To this already extensive market the few remaining market participants will be able to add arbitrage between the physical markets and the secondary markets, the benefits and risk management associated with carbon trading and renewable energy tools. What was once a simple market controlled by governments has now developed into a very complex array of many different but allied products all related to the provision of low carbon based electricity and gas for domestic use by industry, commerce and residential needs.

In the development of the short term gas trading market design for NSW and SA, this issue of arbitrage has been addressed in detail and accommodated in the current STTM design, indicating the issue is real and alive. The increasing use of gas for power generation will make such opportunities for arbitrage more common (especially with expected additional network constraints and congestion occurrences arising from the carbon reduction strategies) and therefore impose a higher risk on consumers.

The MEU remains concerned that in increasingly more complex energy markets, with greater convergence of gas and electricity markets, and hence greater concentration of the energy (gas and electricity) industry, with only a few major firms, including some with dominant market positions in both generation and retail (in both electricity and in gas and perhaps even in renewables) it is difficult to assume that we will achieve "competitive and efficient" investment in gas and electricity markets without the detailed analysis and debate.

Arbitrage opportunities are potentially enhanced in the light of increasing fuel convergence and industry concentration. This is likely to be of greater concern, especially with the major vertically-integrated energy firms owning and controlling renewable sources of energy, such as wind power. The issues are particularly significant as wholesale market costs and the prices consumers pay can be mitigated by the penetration of wind and other renewable energy resources (as well as by free flowing interregional trade), and more energy efficiency within generation, and by demand management responses.

Not only are **competition** concerns involved, but also the potential to reduce overall **consumption** of power becomes an issue, with the resultant impact of achieving **carbon emissions reductions** to meet government targets**.**

Against this background, it is not surprising that energy industry participants do not comment (or are deliberately silent on the matter) on the competition and arbitrage effects of an increasingly more complex (and continued concentrated) national electricity market. That the AEMC has decided to not address this issue on the basis that it has only been raised by the MEU is of concern – one only need remember the concerns raised and ignored by Cassandra prior to the sack of Troy!

Overall, the MEU considers that the convergence of the gas and electricity markets presents significant competition concerns, which could also impact on achieving government carbon emission reduction targets, and the issue of arbitrage raised above should be further progressed under the AEMC review. **As well, the AEMC review should examine whether changes to the Rules and even of the Trade Practices Act, are necessary to mitigate the increased competition concerns.**

In the section relating to specific Western Australian issues, the AEMC makes reference to the high cost of gas in WA as providing a different dynamic to that seen in the eastern states. The MEU has consistently raised its concerns that the introduction of RET and CPRS will result in higher gas costs. This issue becomes even more important in light of the decisions made to export LNG from Gladstone in Queensland. The

reason for the high cost of gas in WA is twofold – the gas can be exported at world parity prices and the Dampier to Bunbury pipeline is constrained, requiring augmentation.

There is no doubt that there will be pressure on gas prices to rise in the eastern states, and this matter needs to be addressed by the AEMC in the same manner as it proposes addressing it in the WA section of its report. That the AEMC has failed to do so, indicates a lack of appreciation of the gas market in the NEM states.

2.2 Issue A2: Generation capacity in the short-term

Chapter Summary

This chapter considers generation capacity reserve levels and the management of reliability risks in the short term by the system operator. There are tight reserve levels in Victoria and South Australia in the period to 2010-11. There is also some risk of capacity being retired. We consider that the existing framework may need to be supplemented to manage better the unlikely but credible contingency of an actual or anticipated large reserve shortfall in a region. It might be appropriate for additional mechanisms to be implemented, at least temporary.

Questions

A2.2 Do you agree that the ability for NEMMCO to manage actual or anticipated transitory shortfalls of capacity is a significant issue that should be progressed further under this Review?

A2.3 Are additional mechanisms required to complement the Reliability and Emergency Reserve Trader (RERT) and NEMMCO's directions powers, and what characteristics should such mechanisms have?

A2.4 Do you have any views on the detailed design and implementation of additional mechanisms?

The MEU agrees with the AEMC's stated desired market outcome, viz:

> "The desired market outcome is for installed generation capacity to track required levels over time through the decentralised decision-making of individual market participants. This includes decisions on when, where and what type of new generation capacity to build, and when existing generation capacity should be retired. Importantly, it also includes decisions by consumers on how much to consume at peak times (which determines the need for new generation capacity). Where there is a supporting role for system operator intervention, the desired market outcome is for the form of intervention to be effective, efficient and not to distort the ongoing operation of a competitive market."(AEMC, p.17).

The MEU responds to the questions raised by the AEMC:

A2.2 Yes, but we also consider that there is a need for NEMMCo to be able to address shortages that might be longer than "transitory".

A2.3 Yes. The extent of Demand Side response and energy efficiency (e.g. generation despatch) are currently understated and have received scant attention, as the bulk of attention is devoted to supply side aspects. Already, we are seeing reduced thermal efficiency in the NEM and this has a major impact on the total of greenhouse gas emissions on a national basis. That available demand side responses were not dispatched when recently needed is an indictment of the electricity market where involuntary load shedding is apparently deemed preferable to voluntary load shedding.

Major end users are increasingly setting up internal corporate strategies that enhance the role of such strategies.

A2.4 The MEU has consistently argued over the years for a capacity mechanism to be introduced in the NEM. It is timely, especially in the light of the RET scheme, that the issue be reconsidered, as there is the possibility that it may facilitate investments in renewable energy projects. The performance of the WA electricity market which has a capacity market, shows that new generation and active demand side responsiveness can be achieved with a well designed market

2.3 Issue A3: Investing to meet reliability standards with increased use of renewables

Chapter Summary

This chapter considers the ability of the existing frameworks to support the efficient and timely delivery of new generation capacity, including to complement potentially large volumes of new wind generation capacity. Wind generation delivers energy, but can only be relied on a very limited degree to deliver energy at times of peak demand. We consider that the framework of the energy-only market is robust, and provides appropriate signals for the timing, form and location of new investment. This is supported by market participants, and by quantitative modelling undertaken by the AEMC Reliability Panel. It is, however, critically important that the processes for reviewing and amending market settings (e.g. the maximum market prices) are robust.

Questions

A3.1 Do you agree that the existing framework based on an energy-only market design with supporting financial contracting is capable of delivering efficient and timely new investment, including fast response capacity to manage fluctuations in outputs resulting from larger volumes of intermittent wind generation? If not, what are your reasons for reconsidering this position?

A3.2 Do you agree that the processes supporting the ongoing maintenance of this framework in respect of review and periodic amendment to the market settings, including the maximum market price, are robust? If not, what are your reasons for reconsidering this position?

The MEU does **not** agree with the AEMC's finding that:

> "The energy market frameworks are likely to deliver timely and efficient investment if they are appropriately maintained". (AEMC, p.23).

The MEU notes that the AEMC has blithely rejected the MEU suggestion (see AEMC footnote 39) that a capacity market might provide an answer to a number of the shortcomings of the energy-only market as this market structure struggles to accommodate a need to reduce greenhouse gas emissions and increase the amount of renewable generation.

To support its view the AEMC refers to the report of its Reliability Panel which assessed the benefits and demerits of the energy-only market and the capacity market. Its conclusion was one more of there being no need to change, rather than one of rejecting a capacity market. However, the Reliability Panel recommendation (along with its supporting consultant report from CRA) was made prior to the introduction of the government-sanctioned policies to reduce greenhouse gas emissions and to increase renewable generation. Therefore, many of the arguments the Reliability Panel and CRA used to support its position need to be readdressed in light of the changed environment. That the AEMC has not seen fit to assess the Reliability Panel report in light of the recent changes indicates a lack of understanding of the impact the government changes will impose on consumers. In its response to the Reliability Panel report on the Comprehensive Reliability Review, the MEU observed:

> "The MEU has devoted considerable effort in seeking overseas expertise and experience in providing input to the RP review. Unfortunately, it continues to be the case that decision makers and local "experts" are by and large so wedded to the energy only market that they will not see the risks faced by consumers from the continuation of such a market model. Eminent overseas experts have pointed to the shortfalls in the energy only market, yet their views have

> been totally disregarded by ERIG (and to a lesser extent in the RP's Interim report) with scant evidence provided for doing so."

This view still holds true, but with even more concern as none of the issues about which the AEMC is required to review for the MCE, were issues at the time of the Reliability Panel's work.

The MEU accepts there are competing views regarding which market structure best operates, but the general view of internationally acclaimed energy market economists (such as Tirole and Jaskow), of the US Electric Energy Market Competition Task Force and the WA government, clearly are of the view a capacity market provides greater certainty, and that it can be modified to remove many of its disquieting features. In contrast, the only way an energy only market can reflect changed circumstance is to increase VoLL, which is recognised as a very blunt market management tool.

What is concerning is that the AEMC has totally excluded the option without examination, and bases its exclusion on an out of date report.

The biggest single shortcoming of an energy only market is its inability to encourage voluntary load shedding. When NEMMCo identifies a potential shortfall of generation in the coming summer, it implements Reserve Trader which provides a capacity payment for additional generation and for voluntary load shedding. We have already seen in summer 2008/09 that the energy only market leads to involuntary load shedding even when voluntary load shedding is available.

It has been widely observed that most large electricity and gas users are prepared to provide voluntary load shedding if they are certain of receiving a commercial benefit. As a result there are very few consumers that monitor the electricity market pricing and are willing to load shed when electricity prices approach VoLL. Contrast this actuality to the many businesses that do offer load shedding to NEMMCo, under the Reserve Trader mechanism.

The second issue of the energy only market is that it encourages the building of low capital cost generation to provide a physical hedge against price spikes, especially where incumbent generators offer very high prices for providing price caps. A review of most of the generation built in the NEM in response to high spot prices supports that this is the case. Such generation tends to be lower efficiency gas fired open cycle gas turbine plant which by its very nature causes higher greenhouse gas emissions than would be the case with more efficient but more expensive plant such as combined cycle gas turbines. With a capacity market it is possible to tie the capacity payment to generation efficiency and so achieve the common goal of higher thermal efficiency with new

generation required. An energy only market does not allow this to occur.

The concerning feature of the AEMC report is that it makes no attempt to identify if the current market model could (or should) be modified to actively encourage generation plant which has a low carbon footprint. Instead, it reverts to the usual mantra that the current energy-only market can accommodate the new regime. What is entirely missing is a view whether a different market structure would better serve the goal of reduced carbon emissions and/or lower prices and costs for consumers.

The MEU also offers for consideration the need to review merit order and technical stability systems adopted in the NEM.

The current NEMMCo despatch and merit order system was essentially designed for a fossil fuel based system. In the advent of renewable energy, there is a question whether it is a particularly useful mechanism for generating prices in circumstances where short run marginal cost is zero or negative.

Rhys poses this issue very well with respect to the U.K market[3]:

> "The power system cannot be described solely in terms of kWh production by competing generation plant. Maintenance of system operation and stability requires that plant to be subject to centralised control, to observe particular constraints, and to provide particular services to the grid in terms of reactive power, frequency control, cold start facilities and a variety of other services. These services in turn are linked to characteristics and constraints imposed by the current state of the transmission system and the power flows within it. These had to be dealt with through a mixture of license and grid code requirements, together with financial incentives or recompense to generators. Many of these characteristics of a rule based system were inherited directly from the command and control system of the old CEGB, and will persist in some form in any future integrated system.
>
> To a very large extent these were the rules of a club of fossil generators. The technical features of the market were designed in large measure by people who knew how the power grid operated and knew that they would be commercial players within the new arrangements.
>
> To a significant degree these technical requirements also explain what is sometimes criticised as the Byzantine complexity of both the Pool and subsequent NETA/BETTA trading arrangements. However it is important to appreciate that the nature of these rules can have profound

[3] John Rhys, 'Will markets deliver low carbon power generation? SPRU Electronic Paper Series, Paper No. 175, January 2009. University of Sussex

> implications for the profitability of different types of plant, and hence for the economics of choice in respect of new investment. This, and the potential for intrinsic bias towards fossil plant, is a major issue…"

The questions the MEU wish to pose are:

- In a lower carbon economy, where (as a result of CPRS and RET) the electricity market will have to accommodate the operational realities of low carbon plant (especially renewable generation such as wind and solar with different characteristics of relatively inflexible or intermittent plant) perhaps combined with high efficiency dispatchable plant with a low carbon footprint (such as gas fired combined cycle plant) with greater demand side bidding and management. To best manage the changes, it may well require a different approach to the development of bidding systems and also to the optimisation and scheduling of load – i.e. a different market to a fossil fuel based energy only market.
- Will the five minute bidding/half hour settlement system be optimal in a more complex electricity system with renewables and demand side bidding?
- Will retaining the current system distort the evolving market towards fossil fuels and defeat the objective of climate change policies?
- Are there other issues that could pose as potential barriers to entry of non-fossil plant?
- Are consumers likely to obtain the most efficient price outcomes?

That these issues have not been addressed by the AEMC is of concern, but even more concerning they have not even been identified as issues of significance.

The MEU is also not so sanguine with the AEMC's view that:

> "…the existing framework for delivering new pipeline capacity is capable of supporting the anticipated shift from coal to gas-fired generation resulting from the CPRS" (AEMC, p.27)

We had previously noted, in our initial submission, that the gas pipeline regime may not be able to accommodate the expected expansion in gas consumption by both power stations **and** by major industrial end users. The MEU would like to see the AEMC analysis to support of its view there is no problem, and for there to be debate over the issue, rather than a bland dismissal of the issue.

One significant issue that MEU has identified is that the gas pipeline system will be increasingly operating with quite low utilisation factors to

manage the large swings in power demand. Whilst there is some capacity in the gas pipelines to manage peak summer electricity demand, a coincident high winter industrial and residential gas demand will occur with a high winter electricity demand, especially noticeable in the NSW market and to a lesser extent in Victoria. Already, we are seeing gas supply constraints in NSW and Victoria and the lead times for new gas pipeline construction are long.

Historically, privately commissioned gas pipelines (such as EGP and SEAGas) are constructed to meet a current need and have little spare capacity available for future growth in demand. Typically, pipelines built by government have been constructed with large spare capacity to accommodate long term growth in gas demand (eg EAPL and MAPS).

In deciding on this issue, the AEMC has assumed that pipelines will be built, but the likelihood is that smaller pipelines will be built than will be needed in the medium to long term. The result will be many small pipelines being built over time, increasing the cost to consumers, whereas the most economically efficient approach would be to build one pipeline with the spare capacity needed by the gas market over the life of the pipeline. This may well be an area where government intervention may be required, as the existing energy market frameworks do not appear to us to be likely to respond to long term market needs efficiently and effectively.

The MEU's responses to the AEMC questions are:

A3.1 No. As discussed above the MEU sees that the current frameworks are likely to fail in the medium to long term and cause increased complexity and unnecessary increased costs to consumers

A3.2 No. There are so many critical issues (see above) that we consider the AEMC review has so far not considered.

2.4 Issue A4: System operation and intermittent generations

Chapter Summary

This chapter considers operation of the power system with increased intermittent generation. Changes in generation mix due to the new climate change policies may result in technical challenges for the power operating system. We consider that the existing frameworks are able to maintain a secure operating system in the context of large increases in intermittent generation.

Questions

A4.1 Do you agree that operation of the power system with increased intermittent generation is not a significant issue and therefore should not be progressed further under this Review? If not, what are your reasons for reconsidering this position?

The MEU agrees with the AEMC's stated desired market outcome:

> "The desired market outcome is to maintain a secure operating system that facilitates competitive energy markets in the context of large variability in generation outputs". (AEMC, p.28).

The MEU, however, has no expert knowledge as to whether the current market frameworks (i.e. system operation) deliver, and that it would facilitate competitive outcomes in the context of large increases of intermittent generation.

The AEMC has stated that the electricity dispatch system is robust and will manage increasing levels of intermittent generation. There is, however, a view that too much intermittent generation has caused instability, notably in Germany/Denmark. The South Australian Electricity Supply Council (ESIPC) which oversees the region with the greatest proportion of wind farms in the NEM has already written a number of reports raising concerns about the high level of wind driven generation in that region, and this is the result of the current RET scheme. Increasing renewables under the expanded RET scheme could make any current concerns much worse, yet the AEMC report seems to just gloss over the issue. The issues need to be explored.

What is important in this discussion and question is an aspect the AEMC has not addressed – will the current frameworks minimise the overall carbon footprint of power system which is a stated aim of government, and at the same time ensure that the minimum costs (price and non-price factors, such as reliability) are incurred by consumers?

For the minimum carbon footprint and minimum cost to occur requires the dispatch of available demand side responses, sufficient low greenhouse footprint plant to meet the requirements of the RET and dispatch higher thermally efficient plant ahead of lower thermal efficient plant. The MEU considers that as generator bid prices (subject to network constraints) is the only criterion for generation dispatch, the current framework is unlikely to be responsive to the stated goal of reducing carbon emissions, although the current system does dispatch the lowest offered energy only price.

The earlier questions raised are pertinent here and for the MEU to be convinced that this is not a material issue, there needs to be a more

transparent and comprehensive review undertaken including modelling of costs. Our concerns are that the market rules and associated arrangements were written for a fossil-fuels market and that the possibility remains that, unchanged, they could be anti-competitive vis-à-vis renewable energy and demand management responses

The MEU responds to the question posed:

A 4.1 No. See above. Modelling and analytical work is needed. See, for example, modelling undertaken by PJM on 'Potential Effects of Proposed Climate Change Policies on PJM's Energy Market. 23/1/2009. Modelling shows the potential effectiveness of renewables and demand management in mitigating rises in wholesale prices, which we would see as being in the long term interests of consumers.

2.5 Issue A5: Connecting new generators to energy networks

Chapter Summary

This chapter considers the connection of new generators to energy networks. The expanded RET will stimulate investment in wind generation capacity. This is likely to be clustered in certain geographic areas, and remote from consumers and the existing transmission network. We consider that the existing model of bilateral negotiation for new connection will be unlikely to cope with large extensions to remote areas. There is significant risk of unnecessary costs and delays.

Questions

A5.1 Do you agree that the connection of new generators to energy networks is a significant issue that should be further progressed under this Review? If not, what are your reasons for reconsidering this position?

A5.2 Would any of the models identified in this chapter ensure the more efficient delivery of network connection services? In particular, with relation to these models:

> How should the risks of connection be most appropriately spread across new connection parties, network businesses and end use consumers?

> How do the connection charges change for connecting new generation plant and what benefits may arise?

> How do the costs for end use customers change and what benefits may arise?

A5.3 Are there any other potential models that we should consider to address this issue?

The MEU concurs with the AEMC that the incidence of renewable generation is likely to be remote from the existing networks and therefore significant costs would have to be borne by such generation to connect to the networks.

It is interesting to note that the AEMC in its review of transmission pricing a few years ago decided that generators should pay only shallow connection costs and that new generator connections were to be negotiated between the network and the generator with the generator paying the cost for the new connection. Despite strong consumer views (especially those of the MEU) that perhaps generation should carry the cost of the networks to deliver to regional nodes, the AEMC observed that this was not necessary to provide generation locational signals and that line losses were a sufficient signal for generator location. The AEMC is now signalling that perhaps its earlier stance (and which is now embedded in the Rules) might need revision.

Consumers considered that the then AEMC stance to be incorrect as to the basis of providing signals to new generation.

The existing network was constructed to connect generation to consumers. Continuing the current pricing approach provides existing generation with a commercial benefit vis-à-vis new generation, regardless of whether it is renewable or fossil fuel based. As a result, new generation tends to locate near to existing transmission lines.

The AEMC quite rightly points out that renewable generation will likely to be remote from the existing networks. The issue then becomes one of how to provide an equitable outcome but retain the competitive nature of the electricity market. The fear than consumers have is that the costs of connection of new generation will be a direct impost on them.

However, there is an alternative. If generators are made responsible for the costs of transporting their product to the regional nodes, then all generators will be on a similar footing. That renewable generation might be more remote is a possibility but they will still be competing with other renewable generation as well as fossil fuelled generation, but on a level and comparable basis.

Whatever outcome is decided it must ensure there is still competitive pressure on all generation to locate in the optimum place (reflecting costs of constructing the generation plant, enhanced generation output and cost for providing the network) and not one that allows generators (whether they are renewable or not) free rein to select their preferred location with another party (in this case consumers) to directly carry the

costs of its locational choice. The approach suggested will place all generation (new and existing) on a similar commercial footing in relation to network costs

An issue that will arise will also be the impact of constraints on the transmission network. The market is already seeing the impact of congestion in the networks with lower cost generation being constrained off because of unrestrained locational decisions by new generators (renewable and fossil) causing congestion.

The MEU sees that allocating the network costs for delivery of power to regional nodes being paid by generators will result in providing new generation with an incentive to locate in the optimum position and provide clear competition for generators regardless as to whether the new generator is renewable or not.

The MEU responds to the questions posed:

A5.1 Yes, it is a very significant issue. This is one key reason why closing off any consideration of a capacity mechanism limits the range of options in addressing this issue, particularly in regard to wind and solar energy resources and the issue of who pays for connections.

A5.2 This is a significant issue and goes to the heart of the principles behind the current NER concerning Use of System charges and causer pays. The current NER provisions need review, including who pays, loss factors, allocation of costs between entry and exit points, etc. End users currently pay for much of the cost of the transmission network up to generation connection points compared to the costs incurred by generators. With the remoteness of wind power projects, the system of who pays needs major consideration, and end users should not have to pay for connections of these projects as a separate charge as by doing so, it will create more problems than it solves.

The AEMC should investigate overseas models such as used by the PJM.

2.6 Issue A6: Augmenting networks and managing congestion.

Chapter Summary

This chapter considers the ability of the existing frameworks to promote efficient use of and investment in, the electricity network through decentralised decision making by individual market participants. This includes looking at how network congestion is managed and the materiality of the costs

it imposes. While the expanded RET, under some scenarios may increase network congestion within and between regions, particularly due the new and different mix of generation, the analysis currently available is inconclusive as to whether this will lead to material increases in congestion. We are undertaking further analysis to determine the materiality of this problem. However, there are a number of factors that imply the potential for a problem with the existing market frameworks, specifically whether the current signals for "self-management" of network congestion are clear enough and strong enough in the new environment where congestion may be more material.

Questions

A6.1 Do you agree that the issue of network congestion and related costs requires further examination in this Review to determine its materiality? This includes considering whether the existing frameworks provide signals that are clear enough and strong enough in the new environment where congestion may be more material. If not, what are your reasons for reconsidering this position?

The MEU agrees with the AEMC that the desired market outcome is for energy market frameworks to promote efficient use of, and investment in, the network through decentralised decision making by individual market participants. To achieve that, the AEMC states that:

> "This requires generators to have the right financial incentives on how to use the network, and where to locate new generation capacity. It also requires regulated networks to have the right incentives to operate and invest in networks over time". (AEMC, p.42).

However, appropriate financial incentives need also to be provided to major demand loads to locate close to generators, and generators closer to loads to ensure both the minimum in costs and a fair and reasonable allocation of costs.

Overall the MEU considers there has to be financial incentives to encourage optimal locational decision making by generators and loads. Congestion is a direct result of new generation seeking to locate close to existing networks so as to benefit from the "free" connections their competitor generators have. If the costs of transmission were to be allocated to generators then the costs for relieving congestion can be borne by all generators causing the congestion. In this way all generators would benefit and have to pay costs in relation to their use of the network. The current approach to allocating costs for transmission to consumers encourages generators to locate for maximum self benefit rather than to optimise the system benefit.

The MEU responds to the question posed:

A6.1: Yes, this is a material issue. Stronger signals are probably necessary to deal with the probability of more congestion. Incentives for new major load location are also an important issue, and a review of the allocation of cost to generators may result in a method for reducing congestion rather then the current approach which is increasing congestion.

2.7 Issue A7: Retailing

Chapter Summary

This chapter considers the jurisdictional price regulation and RoLR arrangements. The CPRS and expanded RET introduce new and potentially uncertain costs into the supply chain for wholesale energy. These higher costs also mean higher prudential costs for retailers. We do not consider that the current retail price regulation arrangements are sufficiently flexible to be able to cope with the potentially large and rapid changes in retailer costs. We also consider that the regulatory contingency plans for handling the financial failure of a retailer arrangements (RoLR) are not adequate. While there are a number of processes underway to investigate potential changes to address these issues, we consider there is a risk if these reforms are not progressed and implemented in line with the introduction of the CPRS and expanded RET.

Questions

A7.1 Do you agree that the current inflexibility in the retail price regulatory arrangements is a significant issue that should be progressed further under this Review? If not, what are your reasons for this position?

A7.2 Do you agree that the limitations with current RoLR arrangements are a significant issue that should be progressed further under this Review? If not, what are your reasons for this position?

A7.3 Are there any additional options that could supplement the processes currently under investigation to address these issues?

The MEU considers that the desired market outcome is for the energy market frameworks to promote and support healthy competitive wholesale **and** retail markets, and not just retail markets, as stated by the AEMC (AEMC, p.50).

The MEU remains unconvinced by the AEMC's position that energy markets frameworks are robust and competitive, as stated in our

reasoning earlier, and probably even less so, moving forward with the incorporation of CPRS and RET into the energy frameworks.

It is not the experience of the MEU that retail markets are currently clearly competitive, and the experience of MEU members is that fewer retailers are active in the market and the prices reflect this reduced competition and the increased risks retailers are expected to manage. Concerns to protect consumers should retailers exit the market, should also extend to include concerns about less than competitive practices at the wholesale and retail levels.

The MEU has concerns with the conclusions of the AEMC's review into the effectiveness of retail competition in electricity and gas in South Australia. Despite the AEMC espoused view that the SA retail market is competitive, MEU members have advised that direct experience of operating in the market does not support the AEMC contention. Unfortunately, the AEMC elected to just discuss the market operations with major retailers and failed to discuss the market with consumers exposed to unregulated retail pricing. Research by the AER has identified that the dominant retailer/generator in SA has the ability to set prices when demand exceeds 2500 MW, which highlights that the South Australian electricity wholesale market is not competitive when a dominant gentailer is able to exercise market power frequently and over prolonged periods. Retail competition in South Australia has also been reduced through exiting of second tier retailers faced with an uncompetitive wholesale electricity market.

The MEU responses to the question posed:

A7.1: The MEU is more concerned with the lack of competition at both electricity wholesale and retail levels. Greater concentration of the electricity supply chain, reaggregation of generation and retail, and the multi-fuel situation of major firms, will produce even less competitive outcomes than now as the market progresses into a more carbon constrained economy. Removing retail price regulation will expose small consumers to increased price gouging.

A7.2: The MEU considers the issue of RoLR is worth investigating further.

A7.3: Yes, the whole question of competition in the industry structure (not just retail) in electricity needs careful examination. This is a major issue that needs detailed attention.

2.8 Issue A8: Financing new energy investment

Chapter Summary

This chapter considers the potential changes to the total value of investment in the energy sector as a result of CPRS and the expanded national RET. It also considers the extent to which current energy market frameworks influence how the required level of investment may be financed. The CPRS and expanded national RET will require a large step increase in investment in the energy sector. We believe that existing frameworks support the efficient financing of this additional investment. Robust market designs and stability and predictability in the regulatory regime are key factors in this regard. This view also reflects, in part, the Electricity Supply Assistance Scheme included in the CPRS White Paper, and its implications for the environment for investment. We note that the cost, availability and form of finance will be influenced by a wider set of factors, including in response to recent developments in global financial markets.

Questions

A8.1 Do you agree that the current energy market frameworks do not impede the efficient financing of the significant increase in investment implied by CPRS and expanded national RET? If not, what are your reasons for this position?

The MEU agrees with the AEMC that:

> "The desired market outcome is for the required level and form of new investment in supply side infrastructure in energy markets to be financially viable at reasonable cost, and that energy market frameworks do not increase unnecessarily the risks and costs of investment". (AEMC, p.57).

However, as the MEU does not believe or accept the AEMC contention that the "energy market frameworks are robust", and as major consumers of energy in this country, we do not believe that the desired market outcome will (or even can) be met without significant change to the market frameworks.

The MEU considers that with the quantum of new investments required in the light of CPRS and RET, this will increase the challenges to make the operation of the energy-only market with its current Rules and price allocations, that much more difficult. In our view, the confidence displayed by the AEMC in its view that the current energy market frameworks will deliver the desired market outcome is totally misplaced.

Simple dismissal of the cost impacts (over and above those directly related to carbon mitigation) on major consumers, and their concerns of uncompetitive outcomes from the review by the AEMC, will adversely affect investment decisions made by major consumers. Already we have seen some companies announce closures if the ETS results in high prices (eg Nyrstar has publicly announce it would cease operations in Australia if ETS results in prices exceeding $40/MWh). What many energy consuming businesses are not aware of yet, is that there will be significant indirect costs in addition to the headline costs from CPRS and RET. Such costs include the major network augmentations that will be needed to allow the lower carbon footprint generation to supply into the networks, and where these costs are not recovered from new consumers they will have to be paid for by existing consumers.

The MEU states for the record, that the AEMC review will have very significant implications for investment decisions by large industrial users of energy over the decade ahead.

Simply put, the MEU does not agree with the AEMC's view that:

> "We believe that the existing energy market frameworks support the efficient financing of the significant additional investment implied by CPRS and the expanded RET. This is because:
>
> - Frameworks for regulated investment are robust, and have been demonstrated to be capable of sustaining significant capital investment programs;
> - The wholesale market designs and the supporting governance arrangements provide a robust environment within which unregulated investment options can be assessed and implemented – and there is significant evidence of investment being delivered in practice.
> - The energy sector in Australia would appear to be relatively well positioned in terms of the broad investment environment, including as a result of the final form of the CPRS and ESAS set out in the White Paper."

That the AEMC feels able to make such broad statements without any financial modelling and in the absence of assessing if there are better solutions, is unfortunate. The AEMC has arbitrarily decided that the current market framework is one which will deliver the optimum outcome, without analysis or review of other systems which might deliver better and lower cost solutions.

In response to the question posed:

A8.1 The MEU notes that its views concerning the robustness of the national energy frameworks have been set aside and ignored,

as have the views of the CEO of NEMMCO who had expressed similar concerns about the competitiveness of the electricity market in light of concentration of the supply industry. Thus we place on record that we totally disagree with the AEMC on this issue, particularly as the AEMC has not provided adequate analysis on which it can develop a sound conclusion, relying more on outmoded reports which never attempted to address the carbon constraint issues and other reports (such as the AEMC effective retail competition in South Australia report) which denied that there really do exist problems in the wholesale and retail markets.

The MEU has consistently pointed out that the challenges faced in the South Australian market (and typified by the outcomes experienced in 2008) are but a microcosm of the NEM generally. Regularly consumers have seen problems arise in the South Australian market which are then seen later in other NEM regions. We see that the South Australian market is a bellwether for the NEM and the problems it faces should be examined very closely to identify the magnitude of the problem and potential solutions.

3. Western Australia

A general overview of the WA energy markets provides two quite distinct features:

1. The WEM is a capacity market and we have seen significant new dispatchable generation built, strong competition between retailers, offers for long term contracts and an ability of large consumers of electricity contract to provide demand side responses when the market needs them.

   In contrast to this, in the NEM we have seen limited new dispatchable generation built (and that mainly involves lower cost low thermal efficiency generation), reducing retail competition, short term contracts only and little ability of consumers to offer demand side responses when needed.

2. In the WA gas market we have seen a totally different scene compared with the eastern Australian gas market. Here gas is high priced, but not generally available t users.

   The reasons for this are:

   - The export market for gas is more attractive from a sales point of view than selling into the lower price expectation of the domestic gas market, and
   - The pipeline serving the main gas market is fully contracted, and new gas consumers (and even some existing gas consumers) are expected to fund the total augmentation costs while many of the existing gas users are able to enjoy the benefits of a full capacity partly depreciated gas pipeline. When augmentation does occur it is fully contracted in advance and there is a significant lag between demand and capacity investment. Small and medium sized industrial users are being squeezed out by the dominant end users (the alumina industry and power generation).

Whilst the electricity market has provided many significant benefits to energy consumers, the gas market has caused significant consternation, with some large gas users having to re-convert to older forms of thermal energy, such as coal. The implications of this to achieving the outcome of a lower carbon footprint are major and need to be addressed.

Compounding this current state of affairs is that the implication of renewable generation is in most cases intermittent. This requires there to be dispatchable back up to this intermittent generation. Coal fired plant has limited ability to quickly replace failing intermittent generation and as a result there will need to be a significant amount of faster start plant. Traditionally this faster start plant

has been either hydro or gas fired. The WA market has limited hydro plant and therefore gas fired plant is the obvious alternative.

Therefore, to address the needs of the main WA market will require lower gas prices and augmentation of the Dampier to Bunbury pipeline.

The allocation of gas for WA domestic uses from the North West Shelf is clearly a political issue but it still needs to be raised and addressed as an issue in relation to the impact of the RET and CPRS. If gas is not redirected to the domestic market or the domestic market has to pay world parity prices for the gas, then the impact of the RET will create significant indirect costs and hardship for WA electricity consumers, as there is an undoubted need for low priced gas to be available to ensure the renewable generation targets are achieved and the stability of the electricity system is maintained.

The second issue is one that lies within the province of the AEMC, and this is how augmentation of gas pipelines can accommodate the fundamental cost allocation between existing users of an existing pipeline and the new users of the same pipeline but which requires augmentation. It is clear that the current approach of having new users pay all the costs for augmentation will directly impact the provision of back up dispatchable generation for intermittent generation required as a result of the RET.

As noted in section 2, developers of privately owned pipelines “build to order”, that is they will only build or augment a pipeline to meet new contractual arrangements. This is sound commercial business practice. In contrast, government development of infrastructure takes a much longer term view. A government development looks at the expected demands many years hence and builds infrastructure to meet the demand expected at some point in the future. This is sound government action caring for its wider constituency.

Thus it is apparent that the current approach to expecting private developers to build infrastructure for future needs has a serious flaw. It is apparent from the direct observation of the augmentation of the DBNGP and the outcomes for many gas consumers in the WA market, that there is a need for a new approach to building or augmenting infrastructure for the long term. Whether this is based on government undertaking the developer roles (as it did until the 1990s when the approach changed to requiring private investors to provide essential infrastructure) or for government to provide guarantees of return to private developers to build additional capacity into developments of essential infrastructure, is an issue that needs to be addressed as part of the AEMC review.

What is certain is that there will be a need for new infrastructure to back up the objectives of the RET and CPRS. Both these initiatives are government driven and therefore there probably is a requirement for government to provide some way of infrastructure to be built with capacity expected to be needed in the future.

An allied issue that the AEMC needs to address is cost allocation on infrastructure being augmented. Should existing users have the benefit of the low price that comes from current infrastructure operating at full capacity, with new users having to pay for all the costs for augmentation, or should the costs of the augmentation be socialised across both existing and new users of the assets. This is an important issue in WA as the cost of the gas pipeline augmentation could well be borne by the gas fired generation needed to reduce the carbon footprint as electricity demand increases and for the dispatchable generation needed to backup the intermittent generation installed to meet RTE requirements.

3.1 Issue B1: Convergence of gas and electricity markets

Chapter Summary

This chapter examines the convergence of gas and electricity networks in Western Australia. We consider that, due to relatively high gas prices in Western Australia, the CPRS is likely to prompt little fuel switching from coal to gas for baseload or high merit generation. However, the expanded RET is likely to lead to an increased role for low-merit gas-fired plant to back-up the increased amount of intermittent wind generation. There are potential issues regarding short-term access to gas supplies and pipeline capacity, but if these become material it is likely they will be addressed through specific initiatives in the jurisdiction.

Questions

B1.1 Do you agree that the convergence of gas and electricity markets in Western Australia is not a significant issue and therefore should not be progressed further under this Review? If not, what are your reasons for reconsidering this position?

The MEU has already addressed this issue at length in section 2.1 above.

The AEMC specifically highlights that the high cost of gas in WA indicates perhaps other solutions might be required, but then opines that the issue is not significant

In fact, the AEMC has the ability to overcome this apparent shortage of reasonably priced gas for the WA market. The reason for the high price of gas is due to the desire of the exporters from the North West Shelf gas reserves to export gas at a world parity price, and for the Dampier Bunbury pipeline to have to be augmented to carry the increased amount of gas to the south west WA markets. That the gas market in WA has not provided a solution to the need for reasonably priced gas

indicates that the market has failed in respect to the needs of WA gas consumers.

The AEMC notes that there will be a need for low merit gas fired generation to back up intermittent generation, but then considers the issue in not material at this time but that it might need to be readdressed later.

This view is appalling. To identify that a problem might occur as a direct result of the RET and CPRS, yet to not address it now, reflects badly on the AEMC review as its brief is to identify future problems and solutions for the MCE.

The WA gas market has identified that there is a constraint on investment in new gas supplies for domestic consumption and that the DBNGP has not been augmented prior to a need for more gas deliveries supports the MEU views in section 2.3 above that the signals for investment with privately owned gas pipelines are significantly muted and heavily biased towards current needs rather than long term needs.

Already, under the current gas market large energy consumers are replacing gas use with alternative forms of thermal energy, such as coal[4]. That the current gas market arrangements are actively increasing the carbon footprint (which is in direct opposition to the government aspirations) then it is clear that the current gas market will not be able to make an appropriate response

If the current needs are not being met prior to the introduction of RET and CPRS, then consumers will be much worse off after the implementation of government policies for a low carbon footprint. It is quite clear that intermittent generation and low carbon emission schedulable generation must have access to gas, but the AEMC view is that this is not an issue at this time.

The AEMC must address this issue now in relation to both the gas supplies needed to reduce carbon emissions and investment strategies to augment gas pipelines in sufficient time and capacity to ensure there is sufficient gas capacity available to ensure the WA carbon footprint is reduced in accordance with the nation's needs.

In response to the question posed:

B1.1 The MEU does not consider this issue is not material as consumers are already seeing the gas market has already failed to deliver and that the achievement of the carbon emissions

[4] One WAMEU member has advised that its conversion from gas to coal is not just a price issue, but one of there being no gas available "for love nor money".

reduction needed depend on having significant gas supplies available.

In relation to the availability of low priced gas needed to minimise the cost impact on consumers of the RET and CPRS the AEMC must identify an approach which makes sufficient gas available at prices which do not make the achievement of the carbon reductions more expensive than is needed.

3.2 Issue B2: Generation capacity in the short-term
Issue B3: Investing to meet reliability standards with increased use of renewables

Chapter Summary

This chapter considers two issues in respect of Western Australia: generation capacity reserve levels in the short-term; and the longer term ability of the existing frameworks to support the efficient and timely delivery of new generation capacity, including to complement potentially large volumes of wind generation capacity. We consider that the capacity market has resulted in the presence of adequate generation reserves in the short-term, and appears to be well placed to attract new investment in the longer term. However, wind generation delivers energy, and can only be relied to a very limited degree to deliver energy at times of peak demand. We have consequently identified a potential risk of an under-provision of back-up generation. It is, therefore, critically important that the processes for reviewing and amending market settings (e.g. the allocation of capacity credits) are robust.

Questions

B2.1 Do you agree that generation capacity in the short-term in Western Australia is not a significant issue and therefore should not be progressed further under this Review? If not, what are your reasons for reconsidering this position?

B3.1 Do you agree that investing to meet reliability standards with increased use of renewables in Western Australia is not a significant issue and therefore should not be progressed further under this Review? If not, what are your reasons for reconsidering this position?

As noted above, the WEM has resulted in additional generation and demand side responses being provided to meet the near and medium term needs of the electricity markets. However the supply of gas for new generation and back up generation is a major issue and needs to be addressed.

In response to the question posed:

B2.1 Yes. The current market approach is providing adequately for the electricity market

B3.1 No. The reliability of WEM will become more an issues as the amount of intermittent generation increases. Unless there is adequate back up of dispatchable generation, there is a real risk of instability and load shedding might have to become a feature of the WEM o manage the increase in renewable generation. This is not a desirable feature. To overcome this instability requires certainty of new gas supplies into the WEM. This aspect is discussed at length in the introduction to section 3 above. The AEMC must address the availability and price of new domestic gas supplies and the issue of pipeline capacity to meet increased demands

3.3 Issue B4 – System operation and intermittent generation

Chapter Summary

This chapter considers operation of the SWIS with increased intermittent generation Changes in the generation mix due to the climate change policies may result in technical challenges for the power operating system. We consider that the existing regime in the WEM of having a single participant bear the main responsibility for balancing the system is not sustainable in light of the likely increased presence of wind generation.

Questions

B4.1 Do you agree that, given an increasing amount of intermittent generation, system operation in Western Australia is a significant issue that should be progressed further under this Review? If not, what are your reasons for reconsidering this position?

B4.2 Would any of the options identified in this chapter improve the efficiency of the balancing process in the WEM? In particular, we would welcome views on

> the practicality of introducing a competitive balancing regime;
> other solutions (such as moving gate closure or introducing centralised wind forecasting) that could reduce the impacts in the balancing market of forecasting errors; and
> the most appropriate charging regime for ancillary services in the WEM.

B4.3 Are there any other potential models that we should consider to mitigate this issue?

It has already been identified in South Australia that too much wind generation can cause system instability, in that dispatchable generation does not have the ready ability to turn down sufficiently at low demand times to allow wind generation unfettered access to the SA region of the NEM. The Electricity Supply Industry Planning Council of SA has already undertaken investigations of this phenomenon, and it has also been an issue in Europe. With the likely introduction of more wind generation into the WEM, the issue is therefore considered to be one that requires attention

In response to the question posed:

B4.1 Yes.

B4.2 The AEMC opines that there will still need to be a large element of coal fired generation needed in the WEM as the price of gas for the WEM will be too high and its availability is suspect. There has been a view espoused for the NEM that gas will displace coal as a fuel under RET and CPRS, and in fact if the overall carbon footprint is to be reduced, then coal fired generation must become a lesser proportion of the overall generation mix. This view must be addressed for the WEM

If more gas fired generation is introduced into the WEM then the issue of system stability becomes less of an issue. What the AEMC should be looking at as well as instability because of coal fired generation, is how to increase the amount of gas fired generation to reduce this as an issue.

In the absence of any move to increase gas fired generation there must be developed a method to manage the instability caused. The AEMC has examined some new market based solutions and these should be examined in more detail. But market based solutions should not be the only ones examined. It is quite possible that a directive based solution might be the lowest cost solution for consumers, and these must be examined as well.

B4.3 There are a number of potential solutions that could address the issue. One of the more obvious ones is that wind generation could be directed to reduce at times when dispatchable generation is at maximum turn down. This creates issues such as at what point is dispatchable generation at maximum turn down and defeats the goal of maximising renewable generation and minimising carbon footprint.

The AEMC needs to address this fundamental issue of whether the framework changes it proposes, optimises price to

consumers and reducing the overall carbon footprint. Until this balance is resolved, it is difficult to propose solutions as the basics are still too fluid.

3.4 Issue B5: Connecting new generators to energy networks

Chapter Summary

This chapter considers the connection of new generators to energy networks in Western Australia. The expanded RET will stimulate investment in wind generation capacity. This is likely to be clustered in certain geographic areas, and remote from consumers and the existing transmission network. We consider that the existing model of bilateral negotiation for new connection will be unlikely to cope with large extensions to remote areas. There is significant risk of unnecessary costs and delays.

Questions

B5.1 Do you agree that the connection of new generators to energy networks in Western Australia is a significant issue and therefore should be progressed further under this Review? If not, what are your reasons for reconsidering this position?

B5.2 Should incentives be provided for Western Power to ensure the timely delivery of connections, and, if so, how should risk be most appropriately shared under such a scheme?

B5.3 Could improvements be made to the queue management process in Western Australia which do not conflict with the non-discrimination provision in the Wholesale Market Objectives?

B5.4 In a Western Australian context, would any of the models identified in Chapter A5 ensure the more efficient delivery of network connection services?

B5.5 Are there any other potential models that we should consider to mitigate this issue?

The NEM Rules effectively require bilateral negotiation for connecting new generation with new generators paying the cost of shallow connections. In regard to this we refer the AEMC to comments made in section 2 of this submission.

The AEMC points out that Western Power is already inundated with new connection requests and this is a direct result of the WEM design

encouraging new generation, and what until recently had been a burgeoning state economy. It is quite possible the current economic downturn could well see many of the new connections requested failing to progress as demand reduces and funding for such projects dries up. In this regard we note that a number of projects initiated by consumers (eg Alcoa, BHP Billiton, Rio Tinto) been deferred or cancelled and this will have the direct impact of reducing electricity demand.

It is therefore imperative that the AEMC assess the pressure on Western Power in light of the current economic downturn and not attempt to introduce controls that were the result of an overheated economy. This is not to say the Western Power processes are adequate and may need adjustment.

Experiences of consumers in the NEM also indicate that even under the revised Rules recently promulgated, the networks exhibit extended times to carry through the "negotiations" required for new connections. To imply that the delays seen in the bilateral negotiation process is purely a WEM phenomenon is incorrect – it would appear that should the NEM ever be in the fortunate position of having many proponents seeking to build new generation, then networks in the NEM would see the same problems experienced by Western Power.

In response to the question posed:

B5.1 Yes, the issue needs to be addressed in more detail, but it also needs to be addressed within the NEM as well

B5.2 The risk implicit in providing incentives on any network to speed up the process of implementing new connections, needs to be assessed. Already consumers in the NEM as well are seeing the networks use their monopoly position to force through their preferences for new connections and place those seeking the new connection under significant time pressures. Referral to the regulator is both time consuming and fraught with difficulties particularly as the economic regulators are not technically able to assess competing views of design.

Whilst the principle of providing an incentive on networks appears a pragmatic solution to clearing backlogs of applications, the outcome could well result in the greater exercise by the networks of their undoubted dominant negotiating position.

B5.3 Whilst queuing is an issue, it still remains within the power of the monopoly network provider (whether in the WEM or the NEM) to cause delays once the process of assessment commences. This has implications for queuing as a later project might well be

expedited to the detriment of an earlier project that is being delayed through the process.

B5.4 The MEU considers that many of the issues it has raised in response the new connections and network augmentation in the NEM apply equally to the WEM.

In particular, the MEU is concerned about the cost allocation of transmission services, especially as the expectation is that new renewable generation will be located remote from existing networks. This remoteness has the potential to make renewable generation more expensive than necessary, and to allow new generation to locate where it need not address the impact of its location, particularly if consumers will be required to pay for the network.

Congestion is another issue that needs to be addressed and addressing the cost allocation aspect could lead to approaches which result in less congestion, and groups of generators arranging their own augmentations to limit the extent of congestion

B5.5 See comments above

3.5 Issue B6: Augmenting networks and managing congestion

Chapter Summary

This chapter considers network augmentation in Western Australia, and the ability of the existing frameworks to promote efficient use of and investment in the network. In the SWIS, the inability to resolve congestion in a cost-reflective manner, and therefore evaluate the costs of this against network augmentation, can result in inefficient overinvestment in the transmission network and consequent delays to the connection of new generators. The expanded RET is likely to exacerbate this situation by leading to a significant amount of renewable generation wishing to connect to the system at the periphery of the transmission network with low capacity factors.

Questions

B6.1 Do you agree that network augmentation in Western Australia is a significant issue that should be further progressed under this Review? If not, what are your reasons for reconsidering this position?

B6.2 Would any of the options identified in this chapter improve the efficiency of network augmentation in the SWIS? In particular, we would welcome views on:

> the practicality of including an evaluation of congestion costs in planning network augmentations;
> other assumptions made as part of the planning process (such as the capacity factor of wind generation); and
> the most appropriate locational signals for generation in the SWIS.

B6.3 Are there any other potential models that we should consider to mitigate this issue?

The MEU considers this issue has many of the same features as impact the NEM, and therefore the comments made in relation to the NEM have equal applicability in the WEM. Network augmentation has traditionally been exposed to the rigours of identifying if augmentation is the most efficient approach to providing service to generators and consumers. The Regulatory Test (in all its guises) is an attempt to balance the benefits of augmentation (whether this be by network or by other means) to ensure there is an equitable balance between cost and benefit.

In the more complex environment of large amounts of renewable generation being imposed on the network this raises the spectre of how to ensure the new generation is optimally located in a holistic sense (allowing for the costs of the network and the costs and output of the new generation) rather than locational decisions being made in isolation of the extent of the network and its ability to transfer the power generated.

As noted in section 2.6, the MEU considers that the current approaches to paying for network augmentation might disadvantage remote renewable generation from both a network connection cost viewpoint as well as a generation competition viewpoint. That existing generation is provided with connections to the network as a result of decisions made prior to the reformation of the electricity supply system, where new generation must carry significant connection costs.

The implicit solution to overcome the disadvantage of location is for the costs to be transferred to consumers by some form of socialisation. Such an approach would have to be allowed for dispatchable generation as well as renewable generation. Failure to do so would result in inequitable treatment for generation based on input energy source. As a result this would remove any locational disincentive on generation and allow generation to obviate any locational signals, because the costs would be borne by another party. This would be intolerable and inconsistent with the long term objective of the electricity market being in the long term interests of consumers.

A far better solution is for all generation to be responsible to locate in the optimum position which recognises the entire costs associated with new generation being contemplated – including network costs, generation costs and government imposed penalties (such as the RET and CPRS) so that the generation developer recognises the costs incurred in its decision on a holistic basis rather than just on generation in isolation. As noted in sections 2.5 and 2.6 above. We consider that allocating transmission costs to generators provides appropriate signals to generators to locate optimally and to provide the necessary incentives to cause network augmentations to minimise congestion.

In response to the questions posed:

B6.1 Yes, the issue is significant. This issue is not just one for the WEM, as it applies equally to the NEM. Locational drivers for generation and loads need to be more focused and to ensure there is equity between all generation options. As the WEM is based on bilateral contracting, a move to make generators responsible for their own transmission costs allows them to take note of congestion which might prevent their dispatch, and to take appropriate action to reduce the times when congestion would otherwise prevent them from completing their contract.

The AEMC rightly notes that the WEM currently has an issue with "unconstrained planning" and augmentation of the transmission system. Requiring generators to pay the costs of transmission (including the costs of any needed augmentation) which reflects their location can only be seen as a sensible approach to minimising the impact of the generator location and congestion. If generators had the responsibility for ensuring the network is adequate for their needs (regardless of fuel source) then optimal outcomes can be expected to reduce costs for transmission and congestion.

B6.2 The costs of congestion do need to be quantified and based on the costs incurred, this provides an indication as to the extent of investment needed to reduce the impact of the congestion.

Wind generation as well as all other generation needs to accommodate the capacity of the existing networks, and to include such assessments in its decisions to proceed with a development. As noted, the WAMEU is of the view that allocating transmission costs (ie the costs associated with delivery power to the regional nodes) provides generators with strong locational signals and provides equity between different generators.

Merely socialising the costs will not provide these essential signals

B6.3 See above

3.6 Issue B7: Retailing

Chapter Summary

This chapter considers energy retailing in Western Australia. The existing jurisdictional price regulation arrangements are not sufficiently flexible or adequate to enable retailers to manage and recover costs, and this situation will be exacerbated by the large cost increases related to the CPRS and expanded RET. While there are existing processes investigating potential changes to address this issue, there is a risk of the recommended changes being implemented too late. This is therefore a material problem.

Questions

B7.1 Do you agree that the current inflexibility in the retail price regulatory arrangements in Western Australia is a significant issue that should be progressed further under this Review? If not, what are your reasons for reconsidering this position?

B7. 2 How can further work undertaken in this Review be best incorporated with the Office of Energy's ongoing Electricity Retail Market Review?

WAMEU members are exposed to the un-capped retail competition in electricity supplies and currently have seen significant benefits. At the same time they have seen the competition in gas supplies effectively disappear (along with the gas!) and a trend to more of the gas fired fast start and flexible generation required to back up intermittent generation will make the gas supply market even worse.

The WAMEU does not consider there is currently adequate competition between retailers in the market or sufficient competition in the wholesale market yet, to warrant a change from the current practices. This may change in the future as more independent generation and demand side responses increase the competition in the wholesale market.

The WAMEU has noted that the move to remove all price caps in Victoria has resulted in increased electricity and gas prices for small consumers, and the resistance provided to such a move by advocates for small consumers in South Australia does concern WAMEU that similar moves in WA might not be in the long term interests of all consumers.

Until the gas market constraints are removed there is a real risk that opening the gas and electricity markets without some protections for consumers, will cause significant distress as the shortage of gas at reasonable prices will:

- result in higher electricity prices as gas fired back up is required in the WEM for intermittent generation
- be potentially rolling blackouts as coal fired generation attempts to catch up with shortages caused by intermittent generation as it reduces output
- cause the IMO to increase the amount of spinning reserve (at a cost) to minimise unserved energy.

On balance the WAMEU is concerned that removal of the price caps will cause more problems than they would resolve

In response to the question posed:

B7.1 On balance, the WAMEU does not agree with the AEMC. To a limited extent the WEAMEU sees that the retail price regulatory approaches do introduce some retailing risks, but it also recognises that removal could cause more problems.

The WAMEU sees that resolution of the gas supply issue is more of a concern, and considers that until the gas supply issue is resolved there should be no change to the retail price regulatory arrangements, Resolving the gas supply issue will allow a clear examination of the issues surrounding retail pricing and the benefits and detriments of their removal.

The imposition by the government of RET and CPRS should not be the basis for the arbitrary removal of retail price regulation, but the imposition by government of these does require resolution of the gas supply anomaly which currently besets WA.

B7.2 The WAMEU is concerned that the imposition by government of the RET and CPRS should not be used as a vehicle to impact the reviews of the Office of Energy in relation to retailing. We would expect the Office of Energy to identify those aspects of its review which are impacted by the RET and CPRS and to work with the AEMC to identify the approach which will minimise costs for consumers concurrently with minimising the carbon footprint.

4. Northern Territory

The Northern Territory electricity supply arrangements are entirely based on gas fired generation. In the past the gas was sourced from Palm Valley and Mereenie gas fields and a recent innovation is to source gas from the Blacktip gas field. Essentially, the incumbent generator has total control and continues to control the gas supplies in the NT.

Despite the earlier intentions of the Northern Territory government to introduce the basics for a competitive electricity market, the outcomes have been such that there is only one incumbent “gentailer” which also provides the networks and the system operation. A very few independent generators have connected to the network but all their output to the network is controlled by the incumbent gentailer. Large electricity consumers are in theory contestable, but in practice are not, having to source electricity from the one supplier.

Although the Utilities Commission has a relatively broad mandate, it is not permitted to address aspects where the incumbent gentailer is acting in the contestable market, despite the fact that the incumbent has a clear monopoly in relation to electricity supplies. This introduces a major issue of cost allocation. The incumbent gentailer develops its costs based on the cost of service model. Effectively, it removes from its total operating costs the revenue it expects to receive from consumers which have a government set retail price cap. The balance of the revenue required to meet its costs come from contestable customers who have no option but to accept the “competitive offer” from the incumbent gentailer. This then introduces a major issue for contestable customers – if the government-set price caps do not include adequately for the RET and CPRS, then the costs will be passed onto contestable customers. This is inequitable and reflects a total lack of competition in the market.

Gas supplies are also controlled by the incumbent generator so that where a consumer requires more gas for short term needs, it must contract with the incumbent gentailer at prices set by the incumbent.

Already, gas supplies are at a premium and new gas supplies are fully controlled by the incumbent.

The Northern Territory government is in the process of examining the power supply arrangements with a view to moving towards a NEM (or even a WEM) style market, but progress is still very much in its early stages.

Overall, the electricity (and to a lesser extent the gas) market has a close appearance to the traditional vertically integrated government owned provider of energy supplies. With such a structure there is no constraint on the incumbent gentailer implementing the RET and CPRS readily and allocating the costs as it desires.

However, as the NT government is seeking alternatives which would lead to greater competition in the supply of power and gas, the recommendations of the AEMC have singular import and therefore the issues must be addressed in the anticipation of future change.

What the AEMC overlooks in its analysis is that there are other forms of renewable energy than wind. Quite rightly the AEMC provides a view that wind energy is unlikely to be a major issue in the NT. What it fails to address is that the NT is well set to accommodate a significant solar industry (in fact there is already a solar farm near Alice Springs. Tidal power has considerable potential in the area as tides are quite high in the region. Thus it is not acceptable to simply consider that the NT will have to import all its RECs and pay a premium for the gas fired carbon footprint.

Because of the potential for other forms of renewable energy such as biomass, solar and tidal, the AEMC will be failing in its brief if it does not address the issues faced in the Territory which have the potential to increase costs to consumers as a result of RET and CPRS. The espoused view of the AEMC is that the costs for the NT will be direct importation of RECs and payment of carbon under the CPRS. This is not appropriate and the current structure of the NT market needs to be assessed properly

4.1 Issues C1-C6: Northern Territory

Chapter Summary

This chapter examines the effects that the introduction of the CPRS and expanded RET will have on the Northern Territory's energy market frameworks in respect of:

- the convergence of gas and electricity markets;
- generation capacity in the short-term;
- investing to meet reliability standards with increased use of renewables;
- system operation and intermittent generation;
- connecting new generators to energy networks; and
- augmenting networks and managing congestion

There will be a limited impact in the Northern Territory in relation to these issues due to the Territory's current and future likely reliance on gas generation.

Questions

C1.1 Do you agree that the convergence of gas and electricity markets in the Northern Territory is not a significant issue and therefore should not be progressed further under this Review? If not, what are your reasons for reconsidering this position?

C2.1 Do you agree that generation capacity in the short-term in the Northern Territory is not a significant issue and therefore should not be progressed further under this Review? If not, what are your reasons for reconsidering this position?

C3.1 Do you agree that investing to meet reliability standards with increased use of renewables in the Northern Territory is not a significant issue and therefore should not be progressed further under this Review? If not, what are your reasons for reconsidering this position?

C4.1 Do you agree that system operation and intermittent generation in the Northern Territory is not a significant issue and therefore should not be progressed further under this Review? If not, what are your reasons for reconsidering this position?

C5.1 Do you agree that connecting new generators to energy networks in the Northern Territory is not a significant issue and therefore should not be progressed further under this Review? If not, what are your reasons for reconsidering this position?

C6.1 Do you agree that augmenting networks and managing congestion in the Northern Territory is not a significant issue and therefore should not be progressed further under this Review? If not, what are your reasons for reconsidering this position?

In response to the questions posed:

C1.1 Despite the fact that 90% of gas is used for generation, there are still a significant number of gas users that are impacted by the gas supply issue. The introduction of competition will require modification of the current gas supply arrangements

However, as the bulk of the territory's current generation is gas fired, there should be adequate back up fast start plant to accommodate intermittent generation. On balance convergence is not likely to be an issue.

C2.1 There is currently no competition in generation. CPRS and RET will lead to very significant price rises. The competitive framework needs urgent review to promote competition at generation and retail levels.

Generation capacity is currently being augmented but by the incumbent gentailer

C3.1 It is a significant issue. See earlier sections.

Whilst all generation in the territory is either owned of controlled by the incumbent gentailer there is no disagreement that the reliability standards should not be a problem.

This then implies that in future all new generation must be controlled by the incumbent, but this is not a competitive outcome which is how the AEMC sees the most economically efficient solution can result.

With the introduction of new impendent generation and more particularly renewable generation from biomass, solar and tidal, the current systems will not be adequate to manage the stability and reliability needed for the system.

C4.1 It is a significant issue. See earlier sections.

The NT government has indicated it wishes to increase competition of power supply in the Territory. When this occurs there will need to be a mechanism for the most efficient plant to be used to provide this. Currently, there no independent system operation that allows for competitive generation dispatch.

Should renewable generation such as biomass, solar and tidal power be introduced, there is no current independent mechanism for balancing the market to accommodate these. Solar and tidal are intermittent in their output and therefore some form of independent balancing is required A failure to provide such a mechanism will allow the incumbent gentailer to control these generation options as well.

The market must be structured in such a way that allows for the introduction of competition from other gas fired and renewable generation. Therefore, either the AEMC must endorse the continuing control of all generation by the incumbent gentailer, or it must ensure that there is a robust mechanism for allowing the competitive introduction of new generation in the Territory.

The concept behind the RET and CPRS is that competition will drive the most efficient outcome. The market structure in the Territory is robust in as much as it is controlled by the incumbent gentailer. But this is not a competitive outcome and the AEMC is tasked to ensure that the market structures will deliver efficient outcomes. Therefore, it must address the fact there is no

competition in the territory at the moment and the current market structure does not

C5.1 It is a significant issue. See earlier sections.

The provider of the network services is the owner of the generation and retail functions. Whilst there can be some degree of separation by ring fencing, it is clearly within the purview of the networks arm of the incumbent gentailer to influence network connections for new generation, be they gas fired or renewable. The fact that some new generation has contracted all their output to the incumbent gentailer and other gas fired generation which could connect to the networks has been unable to do so, implies there is not adequate ring fencing of the different arms of the business. This issue has been taken up with the regional regulator but the regulator has been unable to overcome the closeness between the different arms of the business.

The total independence of the networks business is an issue in the Territory and the AEMC needs to assess more deeply whether its high level view is sustainable.

C6.1 It is a significant issue. See earlier sections.

As noted above, whilst the incumbent gentailer retains its effective monopoly, this is not an issue. However, this does not provide a competitive outcome and the basis of the RET and CPRS is to ensure there is effective competition.

Relief of congestion requires either a generator to move or for the network to augment. If a new generator is not owned or controlled by the incumbent monopoly gentailer, then it requires the network arm of the incumbent to act in a fully independent manner. So far this has not occurred, and some generators seeking to connect have not been able to do so. It is expected that unless there is change this state of affairs will continue, and prevent new more economically efficient options to be implemented.

4.2 Issue C7: Retailing

Chapter Summary

This chapter considers the jurisdictional price regulation arrangements for electricity retailing in the Northern Territory. It is uncertain whether these arrangements are sufficiently flexible or adequate to enable retailers to manage and recover the large costs increases related to the CPRS and expanded RET, as this is dependent on whether tariffs specified in Electricity Pricing Orders

are set at a cost-reflective levels. This, therefore, may be a material problem and warrants further consideration in this Review.

Questions

C7.1 Do you agree that the retail price regulatory arrangements in the Northern Territory may be a significant issue that should be progressed further under this Review? If not, what are your reasons for reconsidering this position?

In response to the question posed:

C7.1 It is a significant issue. There is no retail competition in the Territory, and this issue is, in part, addressed above.

However, the price regulatory arrangements need to recognise that the current approach to price setting needs attention in a holistic way. If the current effective monopoly structure for electricity supply is maintained in the Territory, the NT government has the ability to allocate costs in the manner it sees fit.

The AEMC notes that it considers the Territory will effectively import its RECs and pay the carbon impact on its generation. Under this scenario, there would appear to be no reason to change the current arrangements. Thus the logic of the AEMC would lead to a conclusion that there is no reason to examine the retail arrangements to accommodate the impact of RET and CPRS.

The NTMEU does not agree with the AEMC that the other aspects of the NT market do not cause concerns. It is on the basis that we consider there are many issues to be addressed under the questions C7.2-C7.6, that drives NTMEU to agree that there is a need to address the retail arrangements – not so much as from a view that the retail outcomes are competitive (which the NTMEU advises is not the case), but that the entire NT market is one where there is a need to implement change to achieve the most economically efficient accommodation of RET and CPRS for NT consumers.

Attachment A

A brief analysis of the NEM operation

The data shows that the impact of a very few price spikes has a massive impact on the average spot prices. In particular 78 high price events in SA in 2008 (ie for 0.5% of the time) caused over half (57.1%) of the average volume weighted price.

The time weighted price reflects the spot price to a user with a flat load

The volume weighted price reflects the spot price to a user with a load that matches the regional average profile.

These tables show that the spot prices in the NEM are heavily biased towards the impact of a very few high priced events, and as a result some bizarre outcomes in the NEM occur.

2008 data	**Qld**	**NSW**	**Vic**	**SA**	**NEM (excl Tas and Snowy)**
% of average annual volume weighted price caused by >$300 price spikes	22.9%	14.1%	10.3%	57.1%	24.3%
Av annual time weighted regional price $/MWh	43.87	39.12	40.24	66.37	47.41
Av annual volume weighted regional price $/MWh	48.81	42.13	43.45	92.70	47.70
# price spikes >$300/MWh in 2008	62	23	21	78	184

2007 data	**Qld**	**NSW**	**Vic**	**SA**	**NEM (excl Tas and Snowy)**
% of average annual volume weighted price caused by >$300 price spikes	25.9%	27.3%	19.7%	12.1%	24.1%
Av annual time weighted regional price $/MWh	66.84	67.07	63.40	57.49	63.70
Av annual volume weighted regional price $/MWh	72.73	76.01	69.58	64.89	72.68

# price spikes >$300/MWh in 2007	160	213	132	78	583

2006 data	**Qld**	**NSW**	**Vic**	**SA**	**NEM (excl Tas and Snowy)**
% of average annual volume weighted price caused by >$300 price spikes	18.2%	20.6%	20.9%	19.4%	20.1%
Av annual time weighted regional price $/MWh	25.97	31.01	34.13	38.68	31.02
Av annual volume weighted regional price $/MWh	28.23	34.81	37.65	44.68	34.49
# price spikes >$300/MWh in 2006	27	32	47	62	168

2005 data	**Qld**	**NSW**	**Vic**	**SA**	**NEM (excl Tas and Snowy)**
% of average annual volume weighted price caused by >$300 price spikes	19.6%	36.6%	7.6%	10.1%	24.6%
Av annual time weighted regional price $/MWh	25.17	35.83	26.29	33.60	30.22
Av annual volume weighted regional price $/MWh	27.12	40.84	27.83	36.76	33.44
# price spikes >$300/MWh in 2005	26	67	24	35	152

Attachment B

An internal report by the Energy Consumers Coalition of South Australia

Amongst other things the ECCSA is concerned about two important issues that impact the SA market and they are inter-related:

1) High spot pricing due to economic withdrawal of generation capacity at times approaching high demand, and

2) Alternatives used in the WA market, that could alleviate involuntary Load Shedding requirements

Impacts on the SA Market (due to 2008 events)

It is important to review and clearly understand the impact that last year's (2008) wholesale market behaviour had on the wholesale price last year.

Research undertaken by ECCSA reveals:

- Just **78 half hour periods** of high priced events where prices exceeded $300/MWh (ie **for only 0.5% of the time)** led to a contribution of over half **(57.1%)** of the entire "volume weighted" wholesale price in SA for all of 2008.

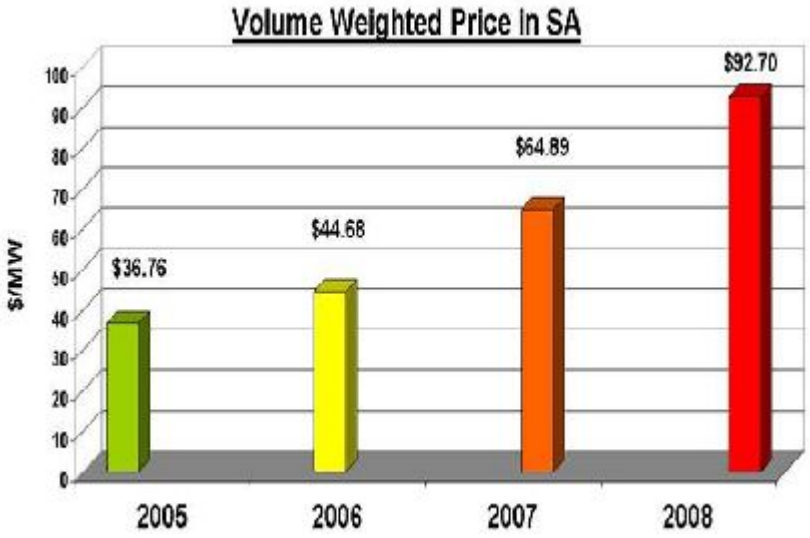
- That is, 57.1% of every $/MWh in the SA regional Pool over every 1/2 period throughout the whole year, was due to these few pricing excursions above $300/MWh

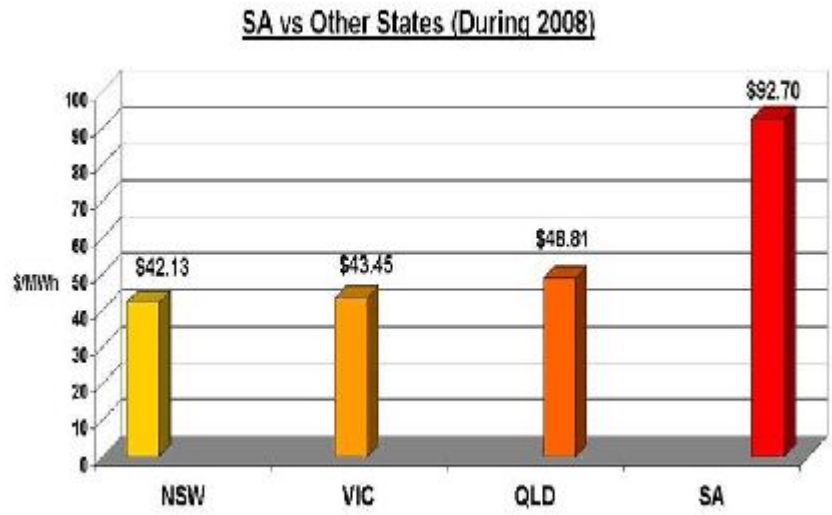
- Much of the high price events was due to economic withdrawal of capacity by certain generators

- This led to a Volume Weighted price for SA of **$92.70/MWh,** compared to pricing in the **$40's/MWh** for every other jurisdiction in the NEM.

- The bottom line is that the SA spot price was **close to double all other NEM states/jurisdictions** and SA consumers are already seeing this increase flow through in contract prices.

- This $92.70 for SA in 2008 can be compared to the previous year average volume weighted spot price of $64.89 for SA in 2007 (an increase of 42% year on year). Graphically the SA spot price has increased year on year as follows:





The impacts of this on SA consumers flow through to all, especially in light of the AEMC recommendation to remove retail price caps

Although this wholesale market price impact is not immediately seen by all consumers, the market sees it and in time this is transferred through to consumers as higher contract prices. There are some large users that see these impacts immediately, but all retailers see them and have to increase their risk margins to accommodate such high prices. Larger users see the impact soon after when going to the market. If the retail price caps are removed, small consumers will see the impact of these price events quickly too.

Gas pricing was also dramatically impacted by March 2008 electricity market behaviour as large amounts of gas were needed to supply low efficiency

generation which was dispatched to offset the withdrawal of base and mid rank generation.

1) The costs of managing higher volatility and wholesale pool pricing ultimately flow through into higher contract pricing.

2) Removing the Standing Contract price (as the AEMC has recommended) and small consumers will see these impacts all the more readily

3) This level of market risk and volatility effectively creates a barrier to entry to new retailers and second tier retailers as they do not have the ability to physically manage the risk like the dominant retailer/generators do

4) In the current economic climate, this will have a **very detrimental impact on business**. Advocates on behalf of business (small & medium) should be very concerned on behalf of their constituents.

   - Business should be encouraged to expand in SA but high power costs will work against this

   - **Electricity prices that are double are an economic dis-incentive for further investment**

   - We are starting to see the increases in network costs resulting from the AER decision on ElectraNet, and in the next two years we expect to see ETSA network prices increase similar to EnergyAustralia in NSW where network prices are increasing by 10% pa per year (ie >50% in the five year period).

5) Greater stress on business and business failure in SA will only exacerbate unemployment and demands on the existing social security system.

Note: If these spot price increases were directly and reflectively passed through to consumers as contract prices:

1) **The impact is higher for households (whose profile is peakier than the overall SA market), ie. residential air conditioning load drives the peakiness of the overall SA market**

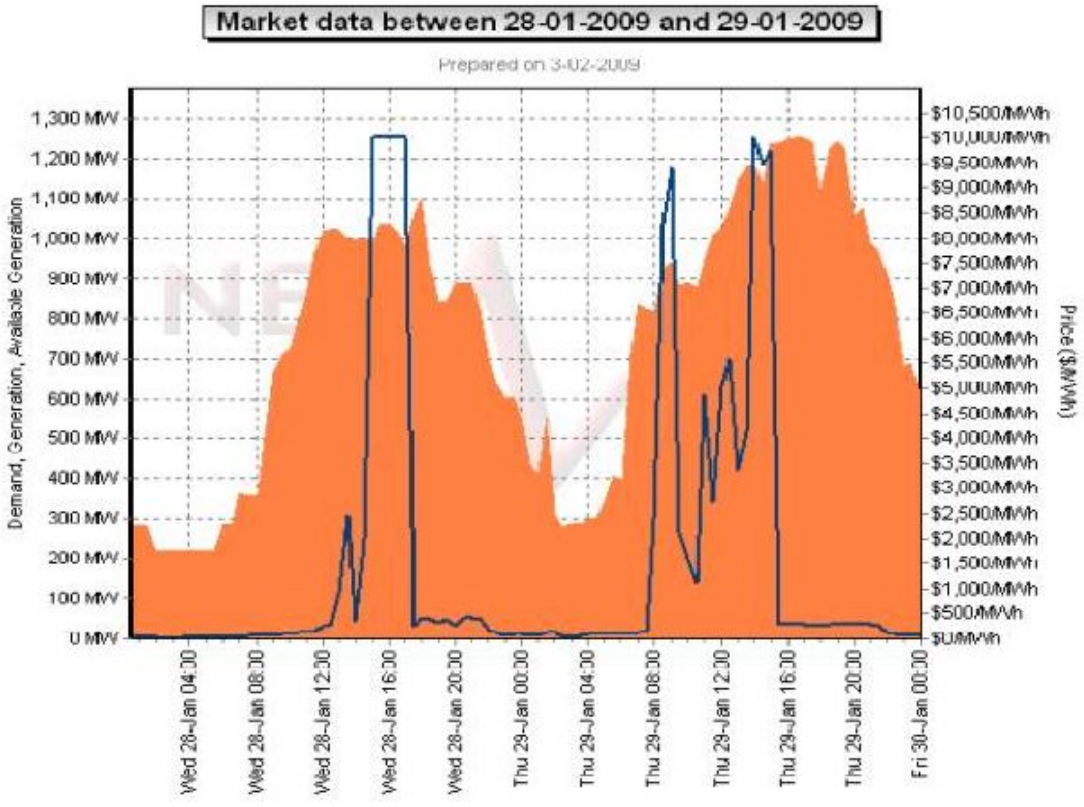
2) **The impact is less for industry and business in general (whose demand profile is generally flatter than residential).**

2009 Activity

The following charts show how TIPS/AGL set the price by economic withdrawal of capacity

The generators, knowing demand is going to be high, price their capacity so high they are not scheduled until it is needed to be dispatched to meet maximum peak demand in SA.

The TIPS (A&B stations) actual export for Wednesday 28th and Thursday 29th 2009 is shown on the graph below. This shows that TIPS had the capacity to generate but by its pricing approach was the last generator dispatched and so it set the spot price, knowing its capacity would be needed to meet system demand.



On Thursday after 4 pm and Friday the spot price stayed relatively low because the CPT was reached around 4pm on Thursday and NEMMCo used the administered price cap of $300/MWh.

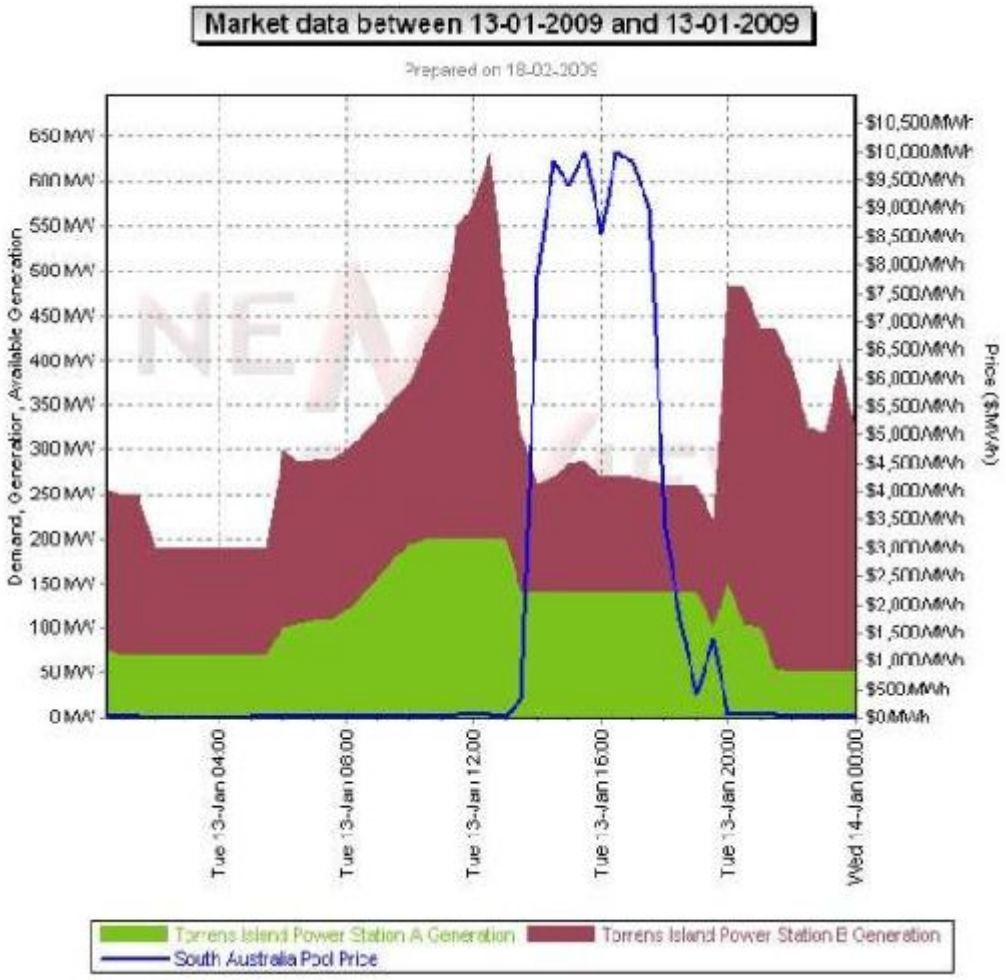
As can be seen TIPS had the capacity to export more than they were dispatched for, indicating that they had offered the last part of their capacity at VoLL.

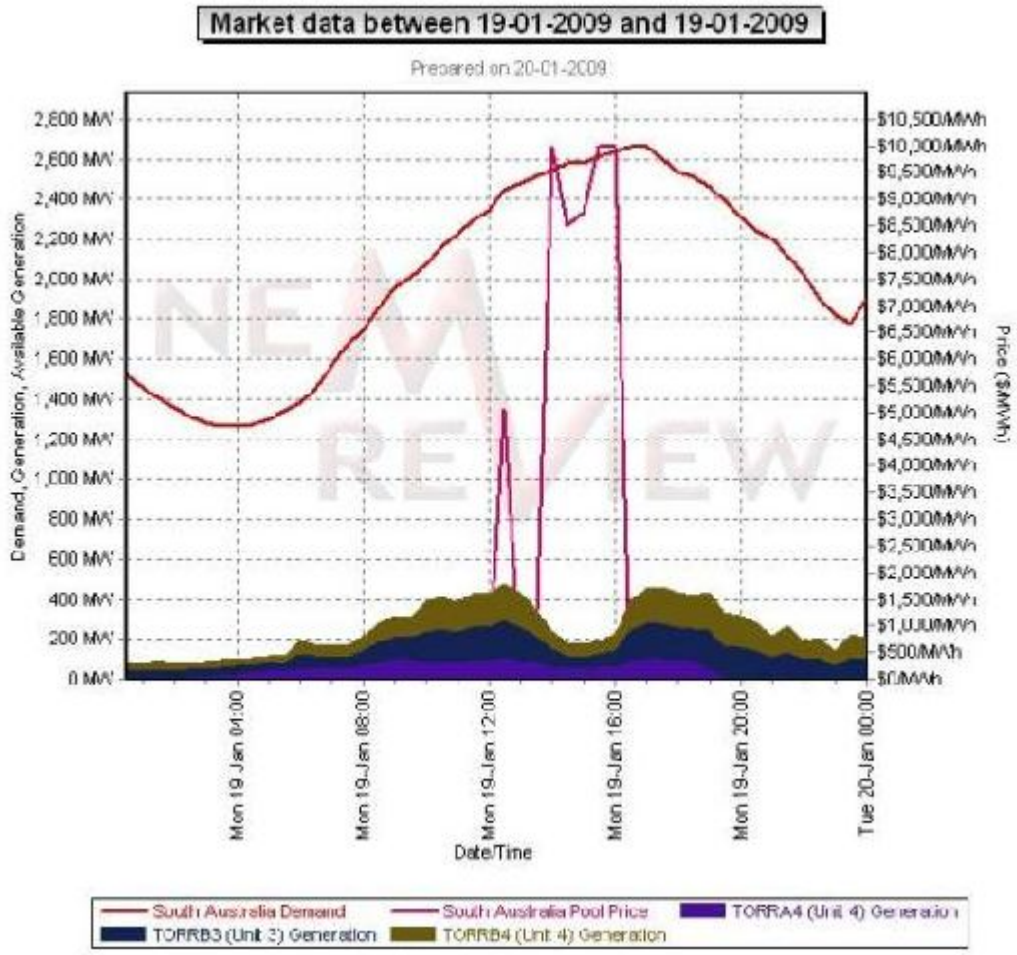
That they were scheduled for more output after the price peaks indicates that they offered this capacity later at much lower prices

Economic Withdrawal of Capacity

The graphs showing VOLL events and the economic withdrawal of capacity are shown below for 13/1/09 and 19/1/09, and show the impact more clearly that TIPS had the capacity to supply more power (because they did prior and after the high price periods) but priced its output so that its generation was not dispatched to its full capacity.

The AER has assessed that TIPS has this ability if the SA regional demand exceeds ~2500 MW.





<u>WA Market Model</u>: (Advantages of Capacity Payments)

The SA region has seen very high prices even at times when demand is well below the regional capacity to generate. Despite this SA has seen load shedding when there are businesses prepared to shed load voluntarily for a cost less than VoLL. But the NEM doesn't allow this to occur

By contrast there are indications that in WA (as distinct from the NEM) new generation is being built and there is **active demand side responsiveness**.

The WEM provides a <u>capacity payment</u> for new generation based on the lowest cost option for generation (open cycle gas turbines) and **makes payments to large users to turn off** when demand would otherwise lead to involuntary load shedding.

- If large users don't turn off they lose the capacity payment – a double edged incentive.

- Some large users in WA are active parties to load shedding on these terms. This compares to only two large users in SA who operate in the pool and provide some load shedding when the price is very high.

- All other businesses in SA have retail contracts and are entitled to stay using even when load shedding is needed.

- MEU has been pushing for some time for a capacity payment option in the NEM, similar to Reserve Trader.

The benefits are great – generators get paid to be available. If they are not available when called they lose their capacity payment.

- Under such a scheme TIPS could not undertake its economic withdrawal behaviour so easily.

- Large users could offer capacity at times of stress and would offer to scale back or even shut down for their capacity payment.

- This would incentivise voluntary load shedding and minimise the need for the rolling load shedding we saw during the last week of January 2009.

The major resistance to capacity payments is that this system is also subject to game playing by generators and as a result the main supporters of the energy only market (used in the NEM) point to this as a reason not to go that route.

Work by MEU submitted to the AEMC Reliability Panel provided a new approach to capacity payments which overcome much of the down side of capacity payments.

One further benefit of capacity payments is that it can assist in overcoming some of the major network problems ETS and MRETS will cause, but this has not been identified by the AEMC so far as an issue.

A major issue for renewable energy (tidal, wave, solar and wind which are all intermittent and geothermal) is that these forms of generation are usually remote from the grid, requiring significant new infrastructure to connect them. They also require existing networks to be augmented in size to carry the high capacity generated for short periods. Someone has to pay for this network augmentation.

Currently the Rules say the generators have to pay connection costs but this is a disincentive to the renewable generator.

The alternative is to socialize these costs, and getting consumers to pay.

The reason for complaint by new generators (renewable and fossil) is that existing generators are already connected and therefore do not have the network costs new generators face. This provides existing generators with a cost benefit vis-à-vis new generators.

One way of overcoming this disparity would be for all transmission costs to the regional node to be borne by generators using the network. This would then provide some relief on the competition issue for new generators and provide strong locational signals to new generation in that the new generator can optimise the costs of constructing the generator, and the network rather than having consumers pay if the costs are socialized just to make renewable generation competitive

Call to Actions:

We need to identify and assess:

- The way a scheduled generator such as TIPS can control the energy only market, and the impact of new intermittent generation in the SA market at times of stress
- The benefits and detriments of a capacity market for SA
- Whether a capacity market would assist in carbon reduction and the impact on the networks of ETS and MRETS
- The effectiveness of the AER and of the Rules. Since its announcement of its investigations into certain bidding practices by a generator in the summer of 2008, nothing has been publicly released a year later!