Our Ref: GR/65/2(57)v1
Enquiries: Andrew Everett
Telephone: (08) 9424 1836
Facsimile: (08) 9424 1818

Via email: SubmissionMinReport@era.wa.gov.au

5 September 2007

Discussion Paper: Annual WEM Report to the Minister
Economic Regulation Authority
PO Box 8469
Perth Business Centre
PERTH WA 6849

Dear Sir

ERA'S ANNUAL WEM REPORT TO THE MINISTER FOR ENERGY – DISCUSSION PAPER

Thank you for the opportunity to comment on the discussion paper. Verve Energy is committed to the success of the Western Australian Wholesale Electricity Market (WEM) and is pleased to contribute to initiatives that aim to achieve that success.

We have decided that the best way to convey our views is to embed our comments at the relevant part of the attached copy of the discussion paper and to encapsulate the key points within the text of this letter.

Verve Energy is disappointed with some aspects of the discussion paper. The direction of the paper was presumably influenced by the feedback ERA received from the consultation sessions conducted with market participants. Verve Energy participated in that exercise and endeavoured to identify opportunities for improvement in the market design and WEM operations. It appears, however, that ERA has dismissed most of Verve Energy's views. Of concern, from Verve Energy's perspective, for example, is that ERA could conclude that the current arrangement for the provision of balancing services is satisfactory.

ERA's primary role is to pursue economic efficiency. In concluding that the market design is evolutionary and that it will not revisit market design issues "...that were comprehensively addressed by the ERTF...", Verve Energy believes ERA falls short of that ideal. The Electricity Reform Taskforce completed its work in 2003. We believe that there is now a case for an updated agenda for reform in Western Australia.

Reference is made throughout the discussion paper to the exercise of market power and the need to contain it. While it is assumed that ERA is more concerned about abuse of market power, the emphasis on market power is at the root of most of the flaws in the current market design and Verve Energy is significantly disadvantaged by it. It can be argued that a more efficient outcome would result from a market design based on the assumption that market power will not be abused (but dealt with if it is) rather than by embracing inefficiency to prevent anticipated abuse. There are adequate mechanisms for dealing with abuse of market power (eg Trades Practices Act) should that be required.

Other significant issues, noted here and canvassed in greater detail in our embedded comments are:

- Independent Market Operator ('**IMO**') is a market participant. Having it act as rule maker and rule administrator gives rise to a potential conflict of interest. There have been occasions when IMO has been reluctant to implement sensible market rule changes because it believes the cost of associated changes to its own systems is excessive.

- There is already evidence that the Reserve Capacity Mechanism is resulting in capacity overbuild. This development should be a key issue in determining the effectiveness of the Reserve Capacity Mechanism and, indeed, the entire market design.

- The ERA has failed to consider in its discussion of the Reserve Capacity Mechanism the role and impact of capacity refund penalties that are imposed on generators. The current methodology for determining penalties clearly distorts market signals, resulting in a material loss in efficiency. IMO is currently reviewing that methodology but Verve Energy is of the view that the proposed revised methodology does not resolve the problem.

- The constraints on both energy and capacity prices in the WEM are set at levels that prevent prices rising in periods of limited supply, and are therefore likely to prevent the right mix of generators and deny some generators the ability to generate sufficient revenue to achieve their respective long run marginal costs. Verve Energy is conscious that all electricity markets impose price caps, and considers them to be a necessary part of market design. However, to achieve the right mix of generation, greater price flexibility is urgently needed.

We trust that Verve Energy's comments will be of assistance to ERA in assessing the effectiveness of the WEM, and reporting to the Minister for Energy.

Yours faithfully

SHIRLEY IN'T VELD
MANAGING DIRECTOR

Discussion Paper:

Annual Wholesale Electricity Market Report to the Minister for Energy

9 August 2007

Economic Regulation Authority
WESTERN AUSTRALIA

A full copy of this document is available from the Economic Regulation Authority web site at www.era.wa.gov.au

For further information, contact:
Economic Regulation Authority Perth, Western Australia Phone: (08) 9213 1900

Contents

List of Figures

Summary of Issues

Discussion Point 1

Given the current Wholesale Electricity Market design, the Authority invites comment on the extent to which the operation of the Reserve Capacity Mechanism is effective in achieving the objectives of the Wholesale Electricity Market.

Discussion Point 2

Bearing in mind the interaction of the capacity market and the energy market, the Authority invites comment on whether the current Wholesale Electricity Market provides adequate incentives for an efficient mix of generation plant.

Discussion Point 3

The Authority invites comment on whether the Wholesale Electricity Market adequately promotes efficient location of generation facilities and promotes the efficient development of transmission and distribution networks.

Discussion Point 4

The Authority invites comment on whether the Wholesale Electricity Market adequately promotes investment in an efficient amount of generation capacity.

Discussion Point 5

The Authority invites comment on whether there are other issues with the Reserve Capacity Mechanism that materially impact on the effectiveness of the Wholesale Electricity Market.

Discussion Point 6

Recognising that the Short Term Energy Market (STEM) is a net pool system, and that the Vesting Contract impacts on liquidity in the market, the Authority invites comment on any aspects of the STEM design that discourage Rule Participants from trading in the Wholesale Electricity Market.

Discussion Point 7

The Authority invites comment on the day-ahead feature of the Short Term Energy Market (STEM). In particular, does the day-ahead feature of the STEM discourage Rule Participants from trading in the STEM and would introducing two gate closures, or gate closures closer to real time, encourage greater participation?

In the event the day-ahead arrangement is replaced by a real-time arrangement or the arrangement where the ‘gate closure’ time to offer and bid into the STEM is closer to real time events, the Authority invites comment on how the potential exercise of market power by larger participants could be mitigated.

Discussion Point 8

The Authority invites comment on the effectiveness of the Independent Market Operator in carrying out its functions.

Discussion Point 9

The Authority invites comment on the effectiveness of the System Management in carrying out its functions.

Discussion Point 10

The Authority invites comment on any further steps that could be taken to assist Rule Participants in understanding the Market Rules.

Discussion Point 11

The Authority invites comment on any aspects of the participation of Demand-Side Management in the Wholesale Electricity Market that remain unclear to Rule Participants.

Discussion Point 12

The Authority invites comment on the adequacy of the existing rule change process. In particular, the Authority is interested in whether or not the current process achieves an appropriate balance between cost, timeliness and transparency.

Discussion Point 13

The Authority invites comment on any fuel supply constraints faced by Market Participants, and the impact that any such constraints have on the effectiveness of the Wholesale Electricity Market. In particular, what impact, if any, do fuel supply constraints have on the operation of markets for capacity and energy?

Discussion Point 14

The Authority invites comment on the materiality of the financial impact of consequential outages.

The Authority also invites comment on the extent to which participants are able to manage their exposure to consequential outages through commercial arrangements. If participants are unable manage their consequential outages through commercial arrangements, the Authority invites comment on the impact of consequential outages on the effectiveness of the Wholesale Electricity Market.

Discussion Point 15

The Authority invites comment on whether the process for scheduling network outages affects the achievement of the objectives of the Wholesale Electricity Market.

Discussion Point 16

The Authority invites comment on whether the confidentiality of information has impacted on the effectiveness of the Wholesale Electricity Market and, if so, how?

Discussion Point 17

The Authority invites comment on whether a more competitive process for the supply of ancillary services would promote the effectiveness of the Wholesale Electricity Market. In particular, do the current requirements under the Market Rules for an ancillary service contract prevent or deter participants from supplying ancillary services and, if so, how?

Discussion Point 18

The Authority invites comment on any specific events, behaviour or matters (not covered elsewhere in this Discussion Paper) that have impacted on the effectiveness of the market. In particular, the Authority invites comments on any specific events, behaviour or matters that are relevant to the achievement of the objectives set out in clause 1.2.1 of the Market Rules.

1 Introduction

The purpose of this **Discussion Paper** is to assist interested parties making submissions to raise and comment on issues regarding the effectiveness of the Wholesale Electricity Market (**WEM**) in meeting the Wholesale Market Objectives. These submissions will enable the Economic Regulation Authority (**Authority**) to prepare a report to the State Minister for Energy (**Minister**) pursuant to clause 2.16.11 of the Wholesale Electricity Market Rules (**Market Rules**).

A notice has been posted on the Authority's web site advising the release of this Discussion Paper. This notice invites submissions to be lodged with the Authority by 4:00pm (Western Standard Time) on Thursday, 6 September 2007.

The Authority will produce the Annual Wholesale Electricity Market Report (**Minister's Report**) to the Minister after considering submissions received during this public consultation process.

1.1 How to Make a Submission

Submissions on matters raised in this Discussion Paper should be in written and electronic form (where possible) and addressed to:

Discussion Paper: Annual WEM Report to the Minister
Economic Regulation Authority
PO Box 8469
Perth Business Centre
PERTH WA 6849

E-Mail: SubmissionMinReport@era.wa.gov.au
Fax: (08) 9213 1999

Submissions must be received by Thursday, 6 September 2007.

In general, submissions from interested parties will be treated as in the public domain and placed on the Authority's web site. Where an interested party wishes to make a confidential submission, it should clearly indicate the parts of the submission that are confidential.

The receipt and publication of a submission shall not be taken as indicating that the Authority has knowledge either actual or constructive of the contents of a particular submission and, in particular, whether the submission in whole or in part contains information of a confidential nature and no duty of confidence will arise for the Authority in these circumstances.

Further information regarding this Discussion Paper can be obtained from:

Mr Ignatius Chin
Assistant Director, Electricity Market Surveillance
Economic Regulation Authority
Tel: (08) 9213 1916
Fax: (08) 9213 1999
E-Mail: SubmissionMinReport@era.wa.gov.au

Media enquiries should be directed to:

Mr Paul Byrne
Byrne & Byrne Corporate Communications
Tel: (08) 9385 9941 Mob: 0417 922 452

2 Background

The Market Rules require the Authority to provide the Minister with a report on the effectiveness of the WEM in meeting the Wholesale Market Objectives. The Wholesale Market Objectives are:

- to promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West interconnected system (**SWIS**);
- to encourage competition among generators and retailers in the SWIS, including by facilitating efficient entry of new competitors;
- to avoid discrimination in that market against particular energy options and technologies, including sustainable energy options and technologies such as those that make use of renewable resources or that reduce overall greenhouse gas emissions;
- to minimise the long-term cost of electricity supplied to customers from the SWIS; and
- to encourage the taking of measures to manage the amount of electricity used and when it is used.

The Market Rules require the Authority to produce this report:

- at least annually; and
- more frequently where the Authority considers that the market is not effectively meeting the Wholesale Market Objectives.

2.1 Reporting Requirements

Clause 2.16.12 of the Market Rules specifically requires the Minister's Report to include the following information:

- a summary of the Market Surveillance Data Catalogue (**MSDC**) compiled by the Independent Market Operator (**IMO**) and the Authority under clause 2.16.2 and 2.16.4 of the Market Rules;
- the Authority's assessment of the effectiveness of the market, including the effectiveness of the IMO and System Management in carrying out their functions, with discussion of:
  - the Reserve Capacity market;
  - the market for bilateral contracts for capacity and energy;
  - the Short Term Energy Market (**STEM**);
  - Balancing;
  - the dispatch process;
  - planning processes; and
  - the administration of the market, including the Market Rule change process;
- an assessment of any specific events, behaviour or matters that impacted on the effectiveness of the market; and

• any recommended measures to increase the effectiveness of the market in meeting the Wholesale Market Objectives to be considered by the Minister.

2.2 The Electricity Industry

The Western Australian Government established the Electricity Reform Task Force (**ERTF**) in August 2001 to investigate and to make recommendations on further electricity reforms to be undertaken in Western Australia. The ERTF formed four working groups to investigate the areas of market design, structural reform, regulatory arrangements and electricity access code. These working groups were made up of representatives from Government, Western Power and industry. The ERTF also undertook two rounds of formal public consultation, and consulted a range of stakeholders directly on specific issues relating to the electricity supply industry.

Following this process, the ERTF made a series of recommendations in regard to further reform to the electricity supply industry. Importantly, the ERTF noted that the recommendations were designed to provide an evolutionary approach to electricity reform, which was considered appropriate due to the specific nature of the Western Australian electricity supply industry.

In respect of market design, the recommendations of the ERTF sought to extend and enhance bilateral contracting, which was considered to be a positive and an important element of the open access arrangements to Western Power's networks. The ERTF considered that basing the market design around this bilateral regime should continue, but be supported by a net pool system. The ERTF concluded that such a market design would offer lower transition costs, less price volatility and lower susceptibility to the exercise of market power (1) In making its recommendations, the ERTF was mindful of the likely structure of the market over the first few years of the market, including relatively few generation participants, one or two retail participants, and relatively inexperienced market participants.

(1) It should be acknowledged that the exercise of market power is acceptable practice in market environments and is necessary for participants to make economic profit (breakeven). It is the abuse of market power that should be considered a problem.

The ERTF considered that the net pool system should be day-ahead rather than a real time pool. The ERTF considered that real time markets are more complicated and costly to implement, and are inherently more susceptible to the exercise of market power. Given the number of market participants and dominance of Western Power as it then was, the small size of the market and the inexperience of many participants in operating in an electricity market, the ERTF considered that a day-ahead market was more suitable to Western Australia. (2)

(2) However, it should be recognized that a day-ahead system is less responsive to unexpected events, such as fuel supply curtailments or extreme weather, and provision should be made for minimizing the financial impact of a mismatch between day-ahead prices and actual market conditions.

In respect of restructuring, the ERTF's main focus was on the restructuring of Western Power. The ERTF recommended the disaggregation of Western Power into separate generation, retail and network businesses as a means of providing new entrant competition.

The ERTF recognised that mechanisms would be necessary to mitigate the market power of State Retail (now Synergy) and State Generation (now Verve Energy) during the initial years of the reform process. A key initiative recommended by the ERTF was the Vesting Contract between State Generation and State Retail, which was intended to decrease over time as new independent generators and new retailers entered the market.

To assist with the design of the market and the development of the Market Rules, a Market Rules Development Group (**MRDG**) was established. The MRDG was comprised of 15 members from industry and Government, and was supported by expert teams. These teams

also comprised of representatives from industry and Government, supported by expert advisors. Many of the recommendations of the ERTF, including the adoption of a bilateral contract market supported by a day-ahead net pool system, are now embodied in the Market Rules. The Market Rules include a formal rule change process, which provides a mechanism for ongoing market evolution. Since market commencement, the IMO has initiated the majority of changes to the Market Rules. A Market Advisory Committee (**MAC**) assists the IMO in its role of approving and amending Market Rules and Market Procedures.

Importantly, the reforms recommended by the ERTF and since implemented – including the development of a bilateral trading market supported by a net pool system, and the Vesting Contract between Verve Energy and Synergy – were considered by the ERTF as a necessary first step in an evolutionary process to a fully developed wholesale market in the SWIS. It is important for the Authority's review of the effectiveness of the WEM to reflect this context. In particular, given that the electricity reform process in Western Australia was explicitly intended to be evolutionary, the Authority's first review of the market will be limited to assessing the effectiveness of the WEM since market commencement and, in the absence of compelling evidence of major problems (3), will not revisit market design issues that were comprehensively addressed by the ERTF and during the subsequent implementation phase. The Authority may take a broader perspective in reporting on the effectiveness of the WEM in future reports.

(3) There is evidence of major problems and it should not be ignored.

3 Approach and Processes

3.1 The Approach

As discussed in the previous Section, in light of the extensive consultation that was undertaken during the restructuring of the electricity industry in Western Australia, and the short time since the WEM has been operating, the Authority considers that this first Minister's Report should be focused on the assessment of the effectiveness of the WEM at a fairly high level. The Authority will consider all relevant material but, in the absence of compelling evidence of fundamental problems, the Authority considers that it would be inappropriate to recommend fundamental change in the market at this stage (4)

(4) see comment on previous page – fundamental problems should be addressed.

The Authority considers that, in this first Minister's report, there is good reason to expect that the WEM will develop as it matures and market participants develop a greater understanding of the operation of the market, and that the rule change process is the appropriate vehicle for facilitating this evolution. The Authority notes that the reform of the Western Australian electricity market and the introduction of the WEM was designed in such a way to progress towards more competitive outcomes, such that mechanisms are in place to facilitate a smooth transition.

As indicated in Section 2.2 above, vesting arrangements between Verve Energy and Synergy that were put in place with the disaggregation of Western Power, are designed to roll-off over time, thereby supporting the orderly development of competition in the WEM. Similarly, restrictions on the ability of Verve Energy and Synergy to invest in new generation capacity can be expected to facilitate competitive generation entry.

The Authority will, nevertheless, inform the Minister of all issues relevant to the effective operation of the WEM, and recommend any appropriate measures to increase the effectiveness of the WEM in meeting the Wholesale Market Objectives (5).

(5) Verve Energy supports the graduated introduction of competition in Western Australia, but notes that the existence of the vesting contract militates against any market power Verve Energy or Synergy may have, and as such the ERA should support the introduction of a competitive market design in advance of what it considers to be a competitive industry structure. Notwithstanding that compelling evidence of problems has been identified, it can be argued that the ERA should advocate changes to the market rules in advance of that compelling evidence, as the evidence may well be muted by non-market rule based arrangements, such as the vesting contract. The ERA's obligations to report on the effectiveness of the market under the Market Rules are unchanged by industry structure.

3.2 The Reporting Process

3.2.1 Consultation

As part of its public consultation process, the Secretariat of the Authority has met confidentially with the majority of Rule Participants in the WEM. The purpose of this initial consultation was to provide Rule Participants with an opportunity to inform the Authority of specific issues that may have arisen through their participation in the WEM.

This initial feedback has provided the Authority with an appreciation of the concerns of Rule Participants from all segments of the WEM, including large and small participants, renewable energy providers, Demand Side Management (**DSM**) participants, the IMO and System

Management.

The issues raised by Rule Participants, along with the Authority's preliminary views regarding the effectiveness of the market, are discussed in Section 5 of this Discussion Paper, where the Authority also invites public comment.

3.2.2 Minister's Report

Following assessment of the matters raised during consultation, the submissions in response to this Discussion Paper, and the analysis of the MSDC, the Authority will prepare the Minister's Report.

The Minister's Report is expected to be completed and submitted to the Minister by the end of September 2007.

Pursuant to clause 2.16.15 of the Market Rules, the Authority must, after consultation with the Minister, publish a version of the Minister's Report that has confidential and sensitive data aggregated or removed. This public version of the Minister's Report will be published on the Authority's web site following consultation with the Minister as provided for by clause 2.16.15 of the Market Rules.

4 Overview of the WEM

Trading of electricity in the WEM commenced on 21 September 2006. This section provides a brief overview of outcomes in the WEM over the period from market commencement up to the last week of July 2007. Outcomes in both the capacity market and the energy market are reviewed.

4.1 The Capacity Market

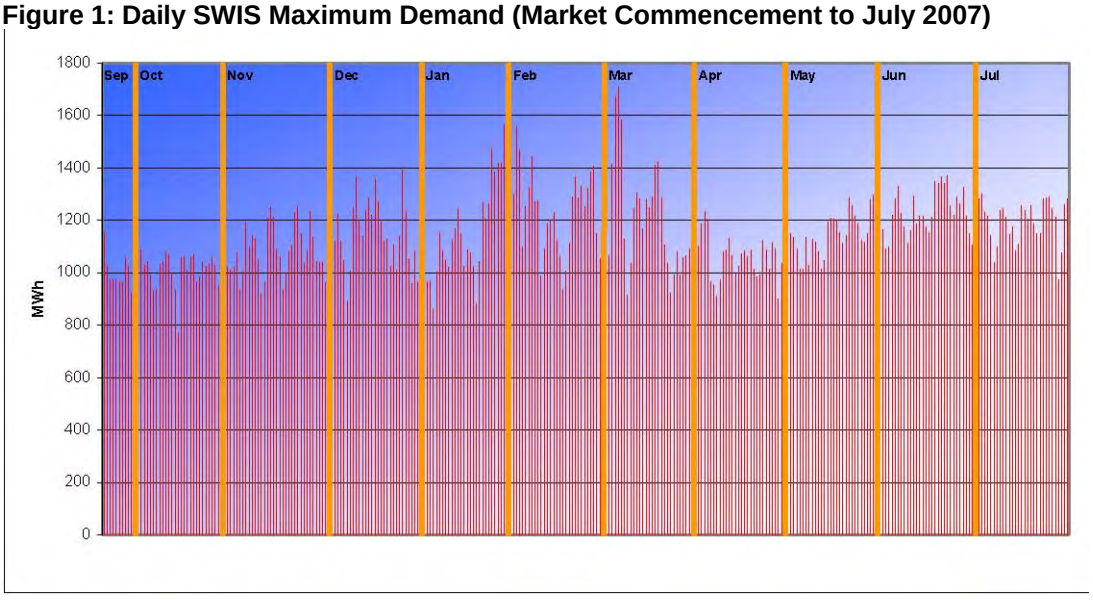
The Reserve Capacity Mechanism has so far undergone three cycles, with all key steps in the cycles being achieved. The most recent cycle commenced in 2006/07 and successfully secured sufficient capacity for the 2008/09 capacity year.

The IMO has recently released its 2007 Statement of Opportunities Report (**SOO**). The SOO notes that there is a very small deficit of 25MW between the capacity requirement and the capacity credits assigned for the 2007/08 capacity year. This deficit is a result of revised forecasts used in the 2007 SOO, which led to a higher forecast of maximum demand in 2007/08. The IMO is currently examining options to address this shortage of capacity.

4.2 The Energy Market

Figure 1 illustrates the daily maximum SWIS demands (measured in MWh per half hour) for each day since the market commenced. Maximum demand occurred in early March 2007, and high temperatures led to other periods of high demand in late January 2007 and early February 2007. Demand during winter to date has not reached these summer peak levels.

Figure 1: Daily SWIS Maximum Demand (Market Commencement to July 2007)



Source: Independent Market Operator (2007)

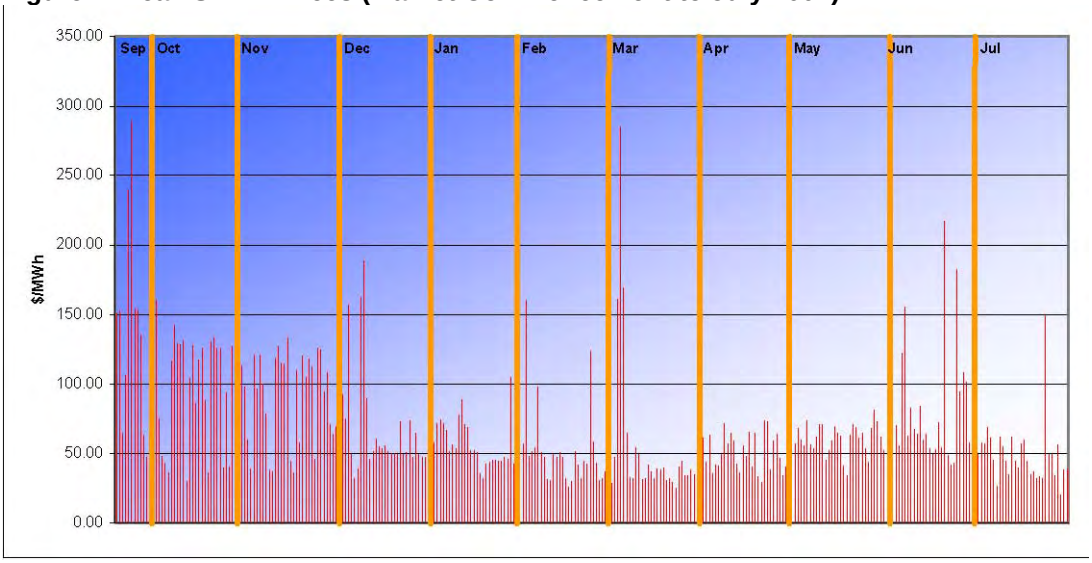
4.2.1 The STEM

Figure 2, Figure 3 and Figure 4 provide an overview of the operation of the STEM since market commencement.

Figure 2 and Figure 3 illustrate the average daily peak and off-peak STEM prices since the market commenced. Although STEM prices have been quite volatile, it can be seen that they have tended to decrease over the first six months of the STEM, particularly peak prices. There has been some recent moderate upsurge in prices although peak prices have not returned to the same consistently high levels as seen during the first few months of market operations. (6)

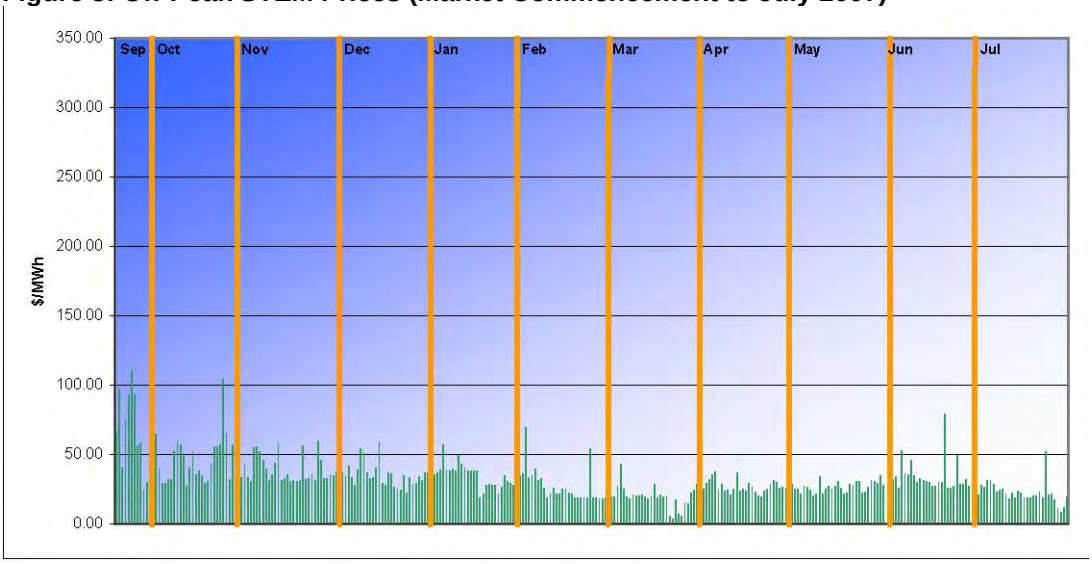
(6) Does this commentary on price outcomes imply that there are there implications for the effectiveness of the wholesale market?

Figure 2: Peak STEM Prices (Market Commencement to July 2007)



Source: Independent Market Operator (2007)

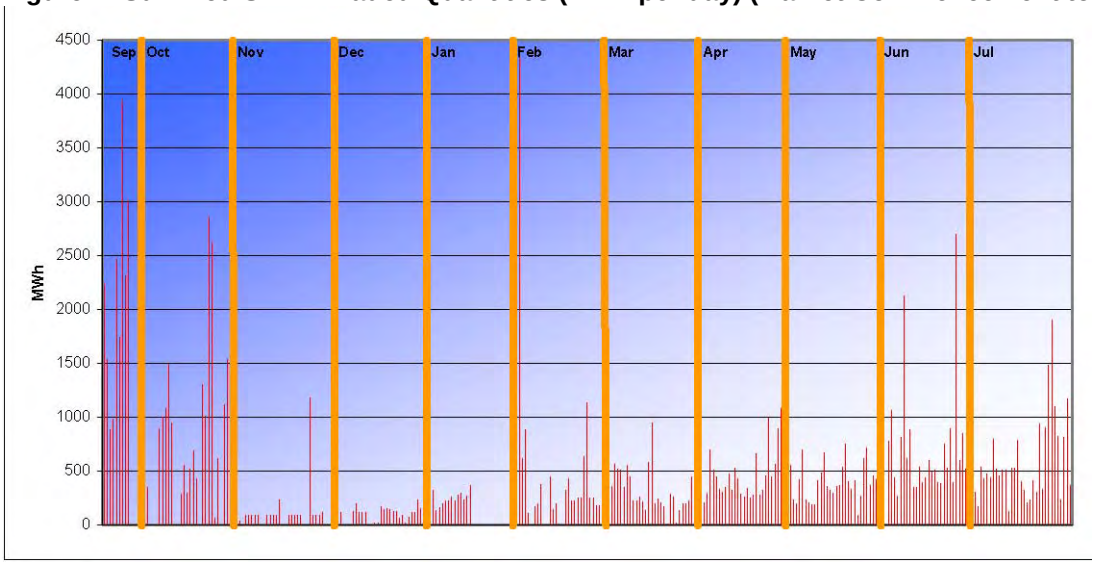
Figure 3: Off-Peak STEM Prices (Market Commencement to July 2007)



Source: Independent Market Operator (2007)

Total volume of energy traded in the STEM for each day since the market commenced is illustrated in Figure 4. During the first two months of the market there was relatively strong trading activity in the STEM. Trading volumes then declined significantly for several months. More recently, STEM trading volumes have returned to higher levels.

Figure 4: Summed STEM Traded Quantities (MWh per day) (Market Commencement to July 2007)



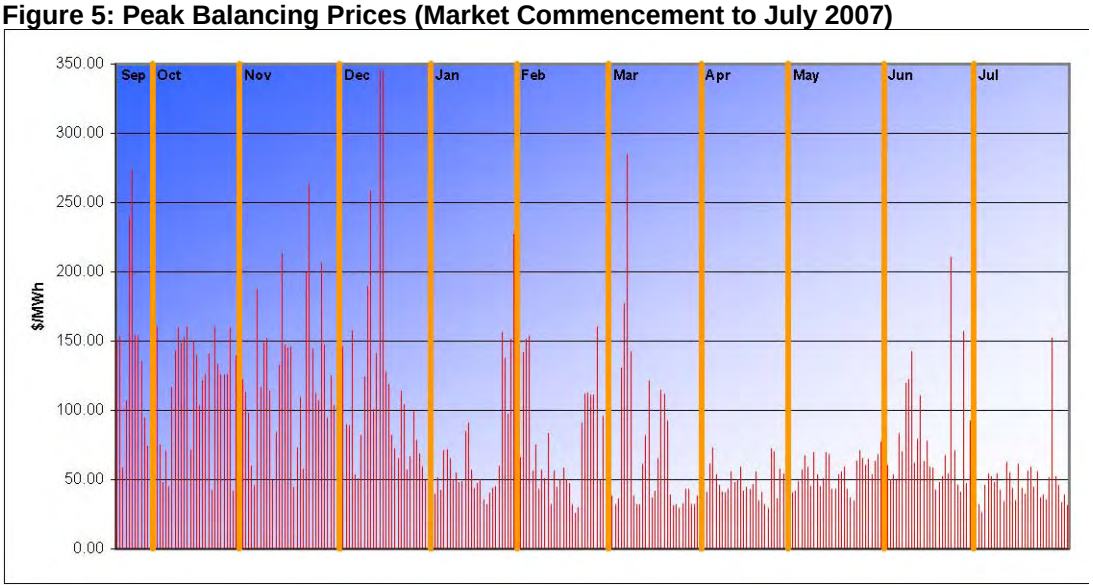
Source: Independent Market Operator (2007)

4.2.2 Balancing Mechanism

Figure 5, Figure 6 and Figure 7 provide an overview of the operation of the balancing mechanism since market commencement.
Figure 5 and Figure 6 illustrate average daily peak and off-peak balancing prices since market commencement. As with STEM prices, balancing prices have been quite volatile (7), although balancing prices over the most recent few months have tended to be lower than the balancing prices during the first few months of the market.

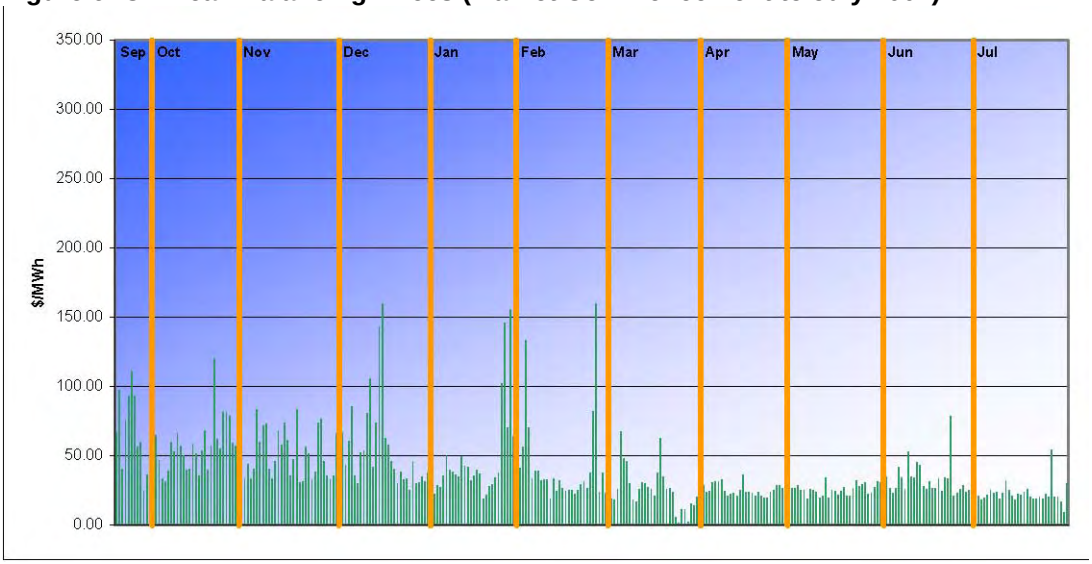
(7) This outcome is understandable as the balancing price is either the STEM price, or a recalculated STEM price. Verve Energy contends that price volatility in the WEM is moderate when compared to other energy markets and the real-time changes in operating conditions.

Figure 5: Peak Balancing Prices (Market Commencement to July 2007)



Source: Independent Market Operator (2007)

Figure 6: Off-Peak Balancing Prices (Market Commencement to July 2007)

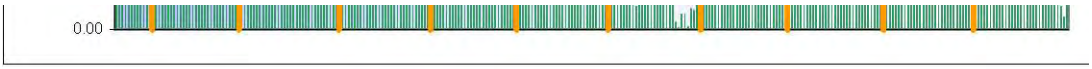


Source: Independent Market Operator (2007)

Figure 7 illustrates total volumes on the balancing market each day since market commencement. By comparing Figure 7 to Figure 4 it is evident that balancing volumes are generally greater than STEM volumes. Exposure to the balancing market can be a strategic decision (8) It can also be a result of factors outside the control of market participants, such as differences between forecast and expected demand, plant outages and fuel constraints. As a result, balancing volumes are not necessarily a good indicator of market efficiency (9)

(8) In the ERA's opinion, in what way and for which market participants can balancing market exposure be a strategic decision? Is this an acknowledgement by the ERA that the balancing market is inefficient and provides the opportunity for some market participants to "game" the market structure?
(9) Verve Energy agrees that balancing volumes are not a good indicator of market efficiency. What is the ERA using as its indicator(s) of market efficiency for this review and how does the WEM rate?

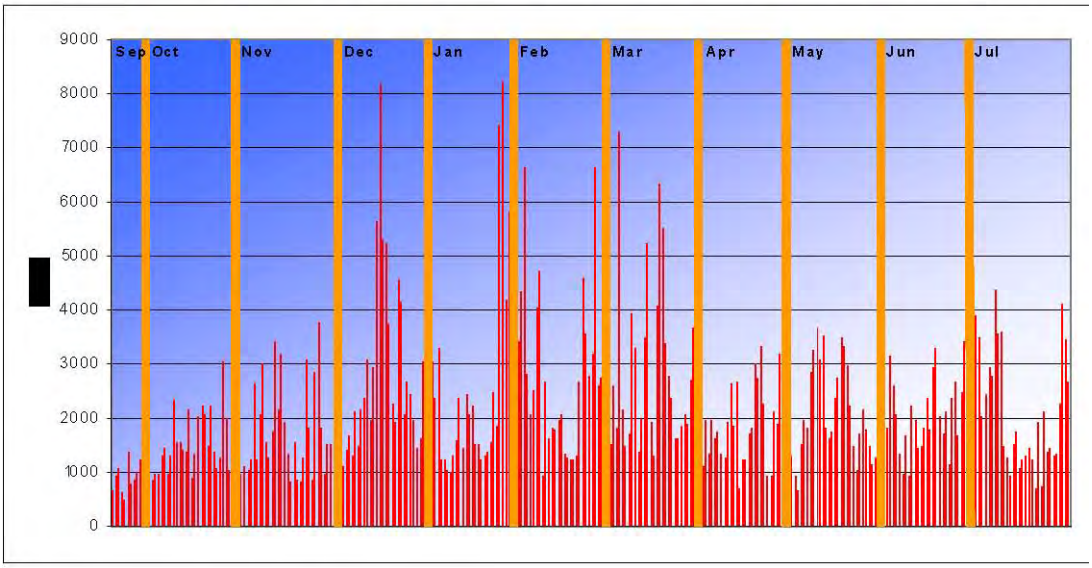
Figure 7: Balancing Quantities (MWh per day) (Market Commencement to July 2007)



Source: Independent Market Operator (2007)

Figure 7 illustrates total volumes on the balancing market each day sir commencement. By comparing Figure 7 to Figure 4 it is evident that balancing v generally greater than STEM volumes. Exposure to the balancing market can be decision. It can also be a result of factors outside the control of market participar differences between forecast and expected demand, plant outages and fuel constr result, balancing volumes are not necessarily a good indicator of market efficiency.

Figure 7: Balancing Quantities (MWh per day) (Market Commencement to July 2007)



Source: Independent Market Operator (2007)

Source: Independent Market Operator (2007)

5 Discussion of Issues

5.1 The Vesting Contract

Some Rule Participants raised concerns about the impact that the Vesting Contract, between Verve Energy and Synergy, has on the overall effectiveness of the WEM.

5.1.1 The Vesting Contract and Liquidity

The Vesting Contract provides for the wholesale supply of energy and Capacity Credits from Verve Energy to Synergy. In addition, the Vesting Contract covers all tariff customers and all customers on retail contracts that Synergy inherited from the pre-disaggregated Western Power Corporation. As a result, both the capacity and energy available to be traded in the WEM is significantly reduced compared to a situation where there is no Vesting Contract. For instance, the current capacity cap for the Vesting Contract is 3,305MW1, which is a large proportion of the total Reserve Capacity Requirement for the WEM (in 2007/08, for example, it is 4,104MW). This results in low liquidity in the WEM because a major proportion of the energy and capacity tradable are locked away by the Vesting Contract.

The lack of liquidity can have significant implications on the overall effectiveness of the WEM. Some Rule Participants have informed the Authority that that the Vesting Contract has resulted in limited opportunities for them to actively trade commercial bilateral contracts in the WEM, both in energy and capacity terms.

The Authority recognises that the Vesting Contract, due to its impacts on the liquidity of both the energy and capacity markets, will undoubtedly have a strong impact on the overall effectiveness of the WEM. The Authority's view, however, is that it is too early, in this first Minister's Report, to consider significant changes to the WEM in response to liquidity issues that can be traced back to the Vesting Contract. (10)

(10) Verve Energy would argue that changes to the market rules should never be contemplated as a result of a contractual arrangement. The ERA should be focused on creating an economically efficient market structure, regardless of industry structure issues such as the size of individual participants or contractual arrangements. The ERA will be aware that market participants must trade-off the risks and price outcomes in the WEM against the risks and price outcomes in negotiated contractual arrangements. Biases in the WEM design today are impacting contract negotiations for electricity supply for many years, and it is therefore absolutely fundamental that they be addressed.

The Vesting Contract was recommended by the ERTF to mitigate the ability of Verve Energy to exercise market power over a substantial proportion of its generation output2. The Authority understands that the Vesting Contract was established to provide continuance of supply obligations related to tariff loads and Initial Supply Contracts (**ISC3**) as a requirement of disaggregation. By locking in a major proportion of the energy and capacity of the WEM into the Vesting Contract, it may be seen as limiting other Market Participants' ability in forming new bilateral agreements with the tariff and ISC loads. In the long run however, the Authority does not consider the vesting agreement imposes such a restriction as these tariff and ISC loads are continually open to new sources of supply. The intent underpinning the Vesting Contract was to phase it out rapidly, progressively replacing it with commercial bilateral agreements via a displacement mechanism.

The Vesting Contract has two mechanisms for the displacement of volumes: negotiated displacement and tendered displacement. Negotiated displacement provides Synergy with the option to reduce volumes under the Vesting Contract by negotiating alternative wholesale arrangements. This negotiated displacement, as well as the option to bring forward displacement amounts, provides Synergy with the flexibility to seek bilateral agreements outside the Vesting Contract, if a more favourable cost outcome can be achieved. Some Rule Participants have noted however, that escalating costs associated with electricity generation in Western Australia make it unlikely that any private entity could offer a more cost effective outcome to Synergy. (11)

(11) This is a result of uncommercial tariffs and a netback arrangement that assigns all market risk to Verve Energy - providing an incentive to Synergy to delay displacement while tariffs are low.

Tendered displacement refers to the compulsory annual reduction of capacity from the Vesting Contract provided for by the Ministerial Direction. Synergy is required to run a tender process to procure wholesale supply to meet this tendered displacement of capacity4. The Authority understands that Synergy is currently running a tender process for 400MW of generation capacity to meet its mandatory displacement obligations for 2009 and 2010. As volumes under the Vesting Contract are displaced over time, the impact of the Vesting Contract on liquidity in the capacity and energy markets will lessen.

The Authority also notes that there are restrictions on the ability of Verve Energy to invest in additional generation capacity above 3,000MW5. As new investment is required to meet the required reserve capacity, this will also increase liquidity. The impact of these policies will not be felt immediately. The Authority notes therefore, that any assessment of the impact of the Vesting Contract on liquidity in the WEM will need to consider the impact of these policies over time.

[1] *Vesting Contract, 1 April 2006*. Available from Office of Energy (www.energy.wa.gov.au) and Synergy's Annual Displacement Statement of Opportunity, 30 November 2006

[2] Electricity Reform Task Force, *Electricity Reform in Western Australia 'A Framework for the Future'*, 2002.

[3] Before disaggregation, Western Power Retail had energy supply contracts with certain customers. These customers were not on tariff but were contestable in size and supplied according to particular contract conditions. Collectively these were referred to as ISC under the vesting contract and represent Synergy's non-tariff loads.

[4] Synergy's Annual Displacement Statement of Opportunity, 30 November 2006.

[5] Ministerial Direction to the Electricity Generation Corporation by the Minister for Energy.

[6] IMO, *2007 Statement of Opportunities Report*, July 2007.

[7] IMO, *2007 Statement of Opportunities Report*, July 2007.

[8] Bid or offer prices a non-Verve Energy generator or a curtailable load will pay or get paid in the event it is instructed by System Management to change its output or consumption level.

5.1.2 Pricing under the Vesting Contract

Some Rule Participants have also expressed concern about the pricing arrangements under the Vesting Contract. Under the Vesting Contract, the charges paid by Synergy to Verve Energy are based on a net-back calculation, that is, efficient retail, network and other costs are deducted from Synergy's sales revenues, and Verve Energy is paid the residual. These Rule Participants note that this guarantees a fixed rate of return to Synergy on the electricity sold under the regulated tariff.

The Authority notes that the net-back arrangement can potentially make Synergy less sensitive than its retail competitors to lower retail prices or to higher wholesale energy market prices. This could, in some circumstances, make entry by new retailers more difficult and, in turn, also

make the entry of new generators more difficult. (12)

(12) There is no comment here from the ERA as to whether or not it accepts this problem, and if so, whether it intends to address it and how.

5.2 The Reserve Capacity Mechanism

The Reserve Capacity Mechanism is intended to ensure that there is adequate installed capacity available in the WEM to cover expected system peak demand, even in the event where the largest single generating unit failswhile maintaining the capability to respond to frequency variations. The Reserve Capacity Mechanism creates a market for capacity, alongside the market for energy. Participants can trade capacity bilaterally or, in the event that market customers do not acquire sufficient capacity through bilateral trade, can secure capacity from the IMO.

Some Rule Participants raised high level concerns about the appropriateness of incorporating a capacity market into the design of the WEM. These concerns are discussed in Section 5.2.1. Some Rule Participants also raised concerns about specific elements of the Reserve Capacity Mechanism, which are discussed in Section 5.2.2.

5.2.1 The Appropriateness of a Capacity Market

Rule Participants expressed a range of views on the appropriateness of incorporating a capacity market into the design of the WEM.

Some Rule Participants consider it to be a fundamental flaw in the market design to have a separate market for capacity. As a result of having separate markets for capacity and energy, the WEM delivers separate price signals for capacity and energy, which is viewed as a flaw because a lack of coordination between these two price signals may fail to deliver a total efficient price outcome. One Rule Participant indicated that it would prefer to see an energy-only market, such as that adopted by the National Electricity Market (**NEM**), where the energy price sends a price signal for both the energy and capacity requirements in the market so that coordination issues between the energy and capacity price signal are no longer relevant.

On the other hand, some Rule Participants have supported the need for the Reserve Capacity Mechanism because it provides a guarantee of payment to investors who build and secure capacity credits in the WEM, irrespective of the trading outcome of the market. This is in contrast with the energy-only market in the NEM, where investors rely on high price events to recoup their investment (13) in building these capacities

(13) This statement is incorrect. Very little generation capacity in the NEM is exposed to high prices (typical estimates approximate 2% of total volume). In the NEM investors in generation sell financial swaps and caps against the spot energy price to recover their investment. This is very similar to the WEM design, where investors sell the rights to energy nominations and capacity credits to recover their investment. Financial caps offer flexibility to market participants to design price and risk sharing outcomes to match their physical requirements, whereas a capacity credit impose a “one size fits all” solution. Further consideration of this issue is provided in comment (15).

These Rule Participants indicated that the payment guarantee feature in the Reserve Capacity Mechanism is useful in mitigating market risk, and is therefore more attractive for financiers to fund capacity development projects.

The net pool design of the WEM is the result of an in depth consideration and analysis of the Western Australian electricity industry and market context. Changing the WEM to an energy-only market would represent a fundamental change to the WEM. The Authority’s view is that it

would be inappropriate to consider such a fundamental change at this stage, in the absence of compelling evidence that the current market design is failing to move toward achieving the Wholesale Market Objectives. The Authority notes that separate markets for capacity are not uncommon in overseas electricity markets, tending to occur in the United States rather than in other jurisdictions.

A central issue in assessing whether the Reserve Capacity Mechanism promotes the objectives of the WEM is the extent to which the mechanism has succeeded in promoting new entry required for the efficient, safe and reliable production and supply of electricity. The Authority notes that the Reserve Capacity Mechanism has in fact delivered new capacity investment (14) into the WEM[6].

(14) The compelling evidence is that the Reserve Capacity Mechanism will deliver a significant oversupply of capacity in 2009/10. The effectiveness of this market design element must be considered.

Discussion Point 1

Given the current Wholesale Electricity Market design, the Authority invites comment on the extent to which the operation of the Reserve Capacity Mechanism is effective in achieving the objectives of the Wholesale Electricity Market. (15)

(15) The statement that in the NEM "*investors rely on high price events to recoup their investment in building these capacities*" is naïve at best and otherwise deliberately misleading. Investors in the NEM recover the cost of capacity investment by selling financial caps. This provides investors with cashflows that are very similar to those created by the sale of capacity credits. The major difference between the two market designs from an investor's perspective is that under the WEM the regulatory risks are far greater (as evidenced by the successive changes that have already occurred to capacity market rules), whereas competitive risks have been demonstrated to be very effective in the NEM. This later point is demonstrated by the outcome of the 2009/10 capacity cycle, through which an expected surplus of 530 MW will occur. While the WEM design provides for this overbuild to occur and spreads the cost across all market generators, competitive tension in the NEM has prevented an overbuild of this scale, but would result in lower forward prices for financial caps. Uncontracted generators would bear this cost in the NEM.

Verve Energy considers the delivery of over 530MW of unneeded capacity in 2009/10 is compelling evidence of the market's failure to deliver dynamic efficiency (the first objective of the market design). In the 2009/10 year alone, the oversupply of capacity will cost Western Australian's approximately $64M. Given the distorted price signals provided by the capacity market, this is likely to get worse.

The ERA has failed to consider the role and impact of capacity refund penalties that are imposed on generators in its discussion of the capacity mechanism. While this subject is currently being considered by the IMO, the method that capacity refund penalties are applied clearly distort market signals, resulting in a loss of allocative efficiency. As the rules currently

apply, generators are incentivised to ensure plant is available during times of adequate supply, yet face the same incentive when the system is under stress and a tight demand-supply balance exists. An advantage of moving to an energy only market design is that the incentive to make plant available is provided by the energy price – without distortion or loss of economic efficiency.

Importantly, the price signals provided through the capacity refund penalties have a real impact on actual power station repair and maintenance expenditure. With a market price signal Verve Energy would be able to target its annual expenditure of between $150M and $200M to more accurately meet the system reliability and security requirements. The absence of such economic efficiencies is in direct contradiction of one of the market's main objectives.

Verve Energy strongly believes that the savings available through economically efficient price signals, even if it results in just a 5% change in annual expenditure, is worth pursuing.

The capacity market also fails to deliver competition between generators to enter the market – as any prospective generator can receive capacity payments if it meets the criteria prescribed in the market rules. The capacity overbuild for 2009/10 clearly demonstrates this.

The capacity mechanism positively discriminates in favour of wind energy, assigning capacity credits on the basis of average energy output rather than its contribution to peak demand. A similar discrimination is not provided to other renewable energy technologies such as photovoltaics.

These failures of the capacity mechanism to meet the objectives of the market require consideration of a timely and managed shift to an energy only market design.

5.2.2 Issues with the Reserve Capacity Market

Some Rule Participants raised several specific issues in relation to the Reserve Capacity Mechanism, including:

- the long term Projected Assessment of System Adequacy (**PASA**) criteria;
- the optimal plant mix;
- locational price signalling; and
- excess capacity in the WEM.

5.2.2.1 PASA Criteria

A Rule Participant questioned the adequacy of the planning criteria that is to be used by the IMO in undertaking its long term PASA study. This Rule Participant suggested that the planning criteria should provide for a greater margin above forecast peak demand.

The Authority notes that the Market Rules specify that the planning criteria for the long term PASA study is to ensure that there is sufficient capacity in each capacity year to meet the forecast peak demand (calculated to a probability level such that the forecast would not be expected to be exceeded in more than one year out of ten), even after the outage of the largest generation unit and while maintaining some residual frequency management capability (30MW, in practice).

The Authority notes that a review of the Reserve Capacity Requirement (16) is currently being undertaken by the IMO, as required under clause 4.5.15 of the Market Rules. The Authority

considers that the IMO's review is the appropriate mechanism for assessing the appropriateness of the criteria at this stage, and does not propose to make recommendations in regard to the criteria for the purpose of the Authority's report to the Minister. The Authority will however, continue to monitor the adequacy of the Reserve Capacity Requirement in the future, and make any recommendations to the Minister that are considered appropriate.

(16) The current Reserve Capacity Requirement is certainly insufficient while it is based on a fixed MW number. We need to move to a percentage of system basis over coming years or we could potentially end up with system reserve margin trending well below 10%, unacceptable when considering the isolation of the SWIS. Of course this concern is almost irrelevant when you consider that the capacity market is delivering a massive and inefficient overbuild resulting in huge physical capacity margins.

5.2.2.2 Optimal Plant Mix

The Maximum Reserve Capacity Price is currently based on the cost of a 160MW open cycle gas turbine power station. The Reserve Capacity Price is currently set at 85 per cent of the Maximum Reserve Capacity Price.

Some Rule Participants have argued that basing the Maximum Reserve Capacity Price on the cost of an open cycle gas turbine power station will only encourage investment in peaking power stations, and will not provide an incentive for investment in other plant types, for example, coal-fired base load generators. These Rule Participants note that this type of investment will not lead to an efficient plant mix in the WEM.

The Authority notes that the WEM consists of markets for both capacity and energy. It may well be the case that prices for capacity alone, or for energy alone, are not high enough to provide an incentive to invest in some types of plant. In considering incentives for investment however, it is necessary to consider both the price signals provided from the capacity market and the energy market. For instance, while revenues in the capacity market may be insufficient on their own to fund investment in a coal-fired base load generator, a coal-fired base load generator will also sell energy through bilateral contracts or the STEM. Investment decisions will be based on expected revenues from both the capacity market and the energy market. Indeed, the Authority notes that there is continuing investment in coal-fired generation in the SWIS, with the Bluewaters 1 coal-fired plant expected to come on line in late 2008.

Discussion Point 2

Bearing in mind the interaction of the capacity market and the energy market, the Authority invites comment on whether the current Wholesale Electricity Market provides adequate incentives for an efficient mix of generation plant. (17)

(17) The availability of sufficient revenue for the efficient mix of generators to achieve their Long Run Marginal Cost (LRMC) is a fundamental element of electricity market design. The Wholesale Electricity Market restricts both energy and capacity prices to levels intended to be reflective of particular generating technologies.

The nature of electricity market investment results in cyclical pricing patterns, where prices in some years are naturally below LRMC (periods of oversupply), while in other periods prices will naturally exceed LRMC (periods of limited supply). The constraints on both energy and capacity prices in the Wholesale Electricity Market are set at levels that prevent prices rising in periods of limited supply, and are therefore likely to deny the right mix of generators sufficient revenue to achieve their respective LRMC.

Verve Energy is conscious that all electricity markets impose price caps, and considers them to be a necessary part of market design. Verve Energy suggests that to achieve the right mix of generation, greater price flexibility is needed. Similar capacity plus energy markets in the United States have energy price caps of US$500-US$1,000/MWh to achieve this purpose.

To enable competition to develop and ensure the right mix of generation is achieved, at a minimum the ERA should recommend that energy price caps be simplified and increased to moderate levels like those used in other energy and capacity markets.

In an environment of rapidly escalating material and construction costs, there should be a transparent mechanism for regularly reviewing the adequacy of caps.

An efficient plant mix for a market will need to include all plant types of baseload, peaking and mid-merit. The current Reserve Capacity Mechanism in WEM appears to provide incentives for investment in peaking plant. However, continuing investment in baseload plant evident in WA have been based on other business drivers – the survival of the coal industry near Collie and the economics of cogeneration derived from the alumina industry. There appear little incentives for new investment on mid-merit plant which will be dependent on adequate compensation from energy prices to meet any shortfalls in capital costs recovery from the capacity prices.

New entries of both peaking and baseload plants into the WA market are forcing Verve Energy's baseload plant to operate more and more as mid-merit plant in order to fulfil its obligations to cater for other market participants. This is not economically sustainable because of (1) not enough energy output for earning energy income; (2) significant costs and technical issues associated with not operating plant in its originally designed operating regimes.

The role that Verve Energy has played in order to facilitate new market entrants and to support the smooth running of the WEM must be recognized and rewarded if the WEM design is to be considered effective.

5.2.2.3 Locational Price Signalling

In addition to commenting on the extent to which the WEM provides signals that promote the optimal mix of generation plant, some Rule Participants also questioned the extent to which the WEM provides appropriate locational price signals.

The Authority considers that it is important not only that there is sufficient generation capacity within the WEM, but also that generation capacity is appropriately located, given optimal network development and design. In the event that generation capacity is not appropriately located, network constraints can arise with excess capacity in some areas of the SWIS and shortages of capacity in other areas, despite there being sufficient total capacity in the WEM.

The Authority notes that in order to apply for certification to be assigned capacity credits, participants must provide an access offer indicating that the facility has access to the network. This requirement is part of the process by which the IMO ensures that facilities assigned capacity will be able to provide that capacity to the WEM. In addition, the Authority notes that generators themselves have a strong incentive to locate on the network so as to minimise the extent to which they will be affected by network constraints or outages.

Discussion Point 3

The Authority invites comment on whether the Wholesale Electricity Market adequately promotes efficient location of generation facilities and promotes the efficient development of transmission and distribution networks. (18) (19)

(18) The market design does not provide market participants the incentive to minimize losses on the electricity network. Verve Energy believes that this should be addressed along with the introduction of a real-time balancing market.

(19) Verve Energy note that the lack of price signals for end of grid load support generating limits competitive tension between network and generation investment. The ERA may wish to consider the merits of locational prices to encourage competition to network investment from location generation and demand side management.

5.2.2.4 Excess Capacity in the Market

A Rule Participant has noted that excess capacity is expected in the WEM in 2007/08 and 2008/09. The Authority notes, however, that since initial feedback from Rule Participants, the IMO has released the 2007 Statement of Opportunities Report7. The 2007 SOO is based on updated forecasts of maximum demand and energy. Based on these updated forecasts, the 2007 SOO concludes that the supply-demand balance will involve a very small deficit in capacity in 2007/08, with the reserve capacity target achieved in 2008/09. These forecasts indicate that significant excess capacity is not expected in the WEM in 2007/08 and in 2008/09, only a small excess of 160MW is expected.

More generally, the Authority considers that it is inappropriate to examine capacity in the WEM at a particular point in time, or even over the short term. Investments in electricity generation are long lived, and some generation plants are only efficient at significant scales. As a result, patterns of investment in generation plant tend to be lumpy. This can lead to periods where the supply of capacity is tight, and other periods where there is significant excess capacity. The Authority considers that the short period over which the WEM has been operating does not provide sufficient evidence to judge whether the WEM leads to excess capacity over the long term.

The Authority also notes that there are mechanisms within the WEM that will tend to bring capacity in line with the Reserve Capacity Requirements. As with other markets, the key signals to investment decisions in the WEM are prices – prices for capacity and prices for energy. With excess capacity, it would be expected that prices for both capacity and energy would be lower than in a situation with tight capacity. Over the long term therefore, significant excess capacity would only be expected to persist if there was some constraint preventing prices for capacity and energy reflecting excess supply.

Discussion Point 4

The Authority invites comment on whether the Wholesale Electricity Market adequately promotes investment in an efficient amount of generation capacity. (20)

(20) Verve Energy disagrees with the ERA's view that "*mechanisms within the WEM … will tend to bring capacity in line with the Reserve Capacity Requirements.*" The 2009/10 capacity cycle clearly suggests that the capacity price signal will deliver excess capacity to the market. It is also apparent that the ERA does not appreciate that much of the generation capacity entering the market has little or no exposure to the energy price, and therefore restrictions on this price (either competitive or regulated) are not an inhibitor to new entrants.

The capacity price signal is promoting investment in an inefficiently large amount of generating capacity that, in general, has high marginal costs for generating electricity.

5.2.2.5 Other issues

Rule Participants raised several other issues relating to the Reserve Capacity Mechanism. These issues included:

- whether testing of Reserve Capacity Obligation Quantity (**RCOQ**) is adequate;
- whether the Reserve Capacity Refund Mechanism is adequate; and
- whether Rule Participants have sufficient scope to trade capacity.

The Authority's preliminary view is that these issues are not likely to materially impact on the effectiveness of the WEM and that any concerns that Rule Participants have in relation to these issues are, at this stage, likely to be better dealt with through the rule change process (21). Indeed, the Authority notes that a rule change regarding the Reserve Capacity Refund Mechanism is currently being progressed.

(21) Verve Energy would like to understand the basis for the ERA's preliminary view that these issues are likely to be immaterial. We contend that these issues can significantly affecting the profitability of a Market Participant (ie Reserve Capacity Refunds) if they are not amicably and equitably resolved. The ERA's analysis of this matter in consideration of the effectiveness of the market design will be a valuable contributor to the rule change process. It is therefore not appropriate for the ERA to delegate its responsibility on this issue.

Discussion Point 5

The Authority invites comment on whether there are other issues with the Reserve Capacity Mechanism that materially impact on the effectiveness of the Wholesale Electricity Market. (22)

(22) The lack of clear procedures that the IMO follow in certifying new capacity is a concern. From Verve Energy's perspective there are huge inconsistencies in the level of scrutiny of applications from different parties and too much discretion available to the IMO to certify capacity that is at varying stages of certainty.

5.3 Bilateral Market for Energy

Some Rule Participants expressed concern that the lack of an appropriate price signal from the STEM makes it more difficult to trade hedging contracts.

Rule Participants provided the Authority with feedback on the effectiveness of the STEM, as discussed in Section 5.4 below. Over the course of this review, the Authority will assess the effectiveness of the STEM, including its effectiveness in providing an appropriate price signal, and make any appropriate recommendations to the Minister.

5.4 The STEM

In assessing the extent to which the STEM contributes to the Wholesale Market Objectives, it is important to consider the particular nature of the WEM. As discussed in Section 2.2, the WEM was designed as a bilateral contract market supported by a day-ahead net pool. This design was considered appropriate in the context of the small size of the SWIS, the number of

participants in the market and the inexperience of many participants in wholesale electricity markets.

5.4.1 Liquidity in the STEM

Some Rule Participants have commented that the volumes traded in the STEM have been negligible, compared to the volumes traded through bilateral contracts and energy balancing volumes. These Rule Participants suggest that this lack of liquidity means that prices in the STEM can be volatile. This, in turn, further discourages trading in the STEM, with the Rule Participants considering it risky to use the STEM to manage their trading positions.

The Rule Participants also noted that, because volumes traded in the STEM are so small, trade in the STEM has very little impact on the financial results of Rule Participants. It was suggested that substantial resources are required by Rule Participants to manage their trading operations in the STEM, and that, on a per volume basis, this makes STEM trading an expensive operation with little return on investment. Some Rule Participants have suggested the abolition of the STEM, leaving the function of managing the fluctuations of electricity demand to the balancing mechanism.

The Authority notes that trading volumes on the STEM since market commencement have not been substantial. In general, daily volumes traded on the STEM have been below 5 per cent of total daily demand. There have been some days with higher trading volumes on the STEM, but daily trading volumes on the STEM have never exceeded 10 per cent of total daily demand.

Regardless of the observed liquidity in the STEM, the Authority's view is that it is inappropriate at this stage to make recommendations for major changes to the STEM. As discussed, and as also noted by the IMO in its review of the first six months of the WEM, the Vesting Contract between Verve Energy and Synergy has a significant impact on liquidity in the STEM. The Authority notes that this is a transitionary arrangement. As the Vesting Contract is phased out, liquidity in the STEM may increase.

Discussion Point 6

Recognising that the Short Term Energy Market (STEM) is a net pool system, and that the Vesting Contract impacts on liquidity in the market, the Authority invites comment on any aspects of the STEM design that discourage Rule Participants from trading in the Wholesale Electricity Market. (23)(24)(25)

(23) Verve Energy notes that it is compulsory for all scheduled market generators to offer all capacity at prices at or below Short Run Marginal Cost in the STEM. Has the ERA considered how effective this design is (alongside the capacity mechanism) in providing sufficient revenue for generators to recover their Long Run Marginal Costs? Verve Energy contends that the market design will provide sufficient revenue for peaking generators (as evidenced by the oversupply of capacity), but that the market will deliver insufficient revenue to energy-producing generators. This is particularly the case for generators perform mid-merit roles and whose SRMC price is often price setting.

Verve Energy asks that the ERA analyses this contention as part of this review.

(24) The day ahead nature of the STEM and the use of STEM clearing price as the key input to MCAP calculation makes SRMC bidding fundamentally unfair to Verve Energy as the sole supplier of balancing and ancillary services. Given the day-ahead design of the STEM there is no risk/reward correlation for Verve Energy as any changes to key cost inputs (ie – plant or fuel availability or demand) only ever result in Verve Energy's costs going up.

(25) The SRMC energy market also gives retailers little or no incentive to bilaterally contract as

they can always secure energy at SRMC. It is the risk of higher future prices that will motivate retailers to contract with generators, and the market design currently mutes this signal. Given the reliance of bilateral contracts in the market design, this represents a fundamental inconsistency.

5.4.2 Pricing in the STEM

Some Rule Participants have raised issues regarding the price caps in the STEM and the requirement that Market Generators bid at short run marginal cost (**SRMC**) into the STEM.

With regard to price caps, the Rule Participants have questioned the necessity of having two price caps in the STEM – the Maximum STEM Price and the Alternative Maximum STEM Price. The purpose of the price caps in the STEM is to minimise the potential for the exercise of market power in the STEM. Adopting a single price cap provides less constraint on bidding behaviour.

The Authority considers that issues in regard to the price caps in the STEM are, in this circumstance, best dealt with through the rule change process. Indeed, the Authority notes that a rule change proposal to set the Maximum STEM Price at the level of the Alternative STEM Price (thereby leading to a single price cap in the STEM) has been considered and rejected. Given this, and also that the WEM is still in its early stage, the Authority, in the absence of compelling reasons, does not propose to explore the issue of price caps in this report to the Minister.

The Authority considers the two price caps are necessary due to the lack of competition in the WEM. Given that competition between generators can only be expected to increase over time, the Authority will continue to monitor the relevance of this issue, and may revisit it in future reports.

With regard to the requirement to bid at SRMC, some Rule Participants have expressed the view that it is impossible to implement the SRMC provision. The Authority notes that the purpose of the requirement to bid at the generator's reasonable expectation of SRMC was to minimise the potential for the exercise of market power in the STEM.

The Authority, in conjunction with the IMO (26), is currently working on a SRMC Paper which aims to achieve a better understanding of the SRMC concept in the context of the WEM. In addition, the IMO and the Authority are currently finalising a SRMC model, which seeks to evaluate whether the SRMC of generating the relevant electricity is reflected in Market Generators' offers into the STEM. Once finalized the results of the paper and the model will be used as a basis to improve understanding of the SRMC provision in the Market Rules.

(26) Verve Energy would welcome the ERA's consideration of the appropriateness and effectiveness of the allocation of duties between the ERA and IMO under the market rules. As the IMO is a market participant, the independence of the ERAs review should be paramount.

5.4.3 Timing of the STEM

Some Rule Participants have commented on the 'day-ahead' feature of the STEM, with participants committed to their STEM positions a day ahead of time. Participants are unable to vary their STEM positions in response to changed market conditions. Given the dispatch arrangements under the Market Rules, this can lead to a situation where changed market conditions require balancing to be performed by Verve Energy, even where it would be more efficient for a non-Verve Energy generator to deviate from its day-ahead contract position by varying its bids and offers in the STEM. Some Rule Participants have suggested replacing the

day-ahead feature with a real time dispatch system, while others have suggested a modification where the 'gate closure' time to offer and bid into the STEM is closer to real time events.

The Authority notes that one of the reasons for the introduction of a day-ahead STEM, rather than a real time STEM, was that the ERTF considered that real time markets are inherently more susceptible to the exercise of market power. This was one of the considerations behind the ERTF's recommendation that a day-ahead market was appropriate, given the small size of the SWIS, the number of participants and the inexperience of many participants in wholesale electricity markets.

The Authority notes that altering the STEM to introduce more than one gate closure, or to move the gate closure time closer to real time, would require more sophisticated STEM trading systems and processes. The Authority notes that some Rule Participants have also commented that managing their day-to-day trading operations already requires significant financial resources, and considers that adding to the complexity of trading in the STEM may exacerbate this problem, particularly for participants with smaller operations. The Authority is concerned that increasing the complexity of the bidding process for the STEM may create a barrier to entry for smaller participants.

Discussion Point 7

The Authority invites comment on the day-ahead feature of the Short Term Energy Market (STEM). In particular, does the day-ahead feature of the STEM discourage Rule Participants from trading in the STEM and would introducing two gate closures, or gate closures closer to real time, encourage greater participation?

In the event the day-ahead arrangement is replaced by a real-time arrangement or the arrangement where the 'gate closure' time to offer and bid into the STEM is closer to real time events, the Authority invites comment on how the potential exercise of market power by larger participants could be mitigated. (27)

(27) The underlying problem of the STEM is that its existence is linked to the lack of a real-time balancing market as part of the Wholesale Electricity Market, which causes a loss in productive efficiency. Without real-time balancing, electricity generators have no real-time price signal to drive generation output. As a result, it is likely that in every trading interval either Verve Energy plant is dispatched while more efficient competing plant have idle capacity, or less efficient competing plant is dispatched while Verve Energy plant is idle. This outcome is inconsistent with the market objectives of minimizing the cost of electricity while seeking economic efficiency.

Without a real-time price signal, the STEM is designed to act as a price signaling mechanism. However the establishment of prices separately from volumes is hugely problematic for Verve Energy due to our role as balancing energy provider. Essentially, the opportunity is provided for other participants to influence prices through the trade of small volumes in the STEM, only to impose large opposing volume on Verve Energy through the balancing market. For example, a market participant may buy 1MW in the STEM, thereby establishing the price at the lowest available offer, only to sell 101MW in the balancing market. For the participant, the net effect being that they were able to sell 100MW at the lowest offer price rather than the appropriate bid price which could potentially be much lower. The result is a significant transfer or wealth away from Verve Energy.

The issue of market power is addressed through the use of forward contracts. This is why, when establishing the WEM, the WA Government imposed the vesting contract on Synergy and Verve Energy. While profit maximising behaviour for an uncontracted generator is to seek higher prices, the opposite is true for a contracted generator. Verve Energy strongly believes the ERA report on the Wholesale Electricity Market should focus of the market structure independent of

the industry structure. In doing so, a competitive market structure will be able to develop consistent with the market objectives, and anti-competitive behaviour will become transparent through market prices. Of course, the competitive response to these prices will then be the ultimate regulator of the outcome, for example with high prices naturally encouraging new entrant generators.

5.4.4 Net Pool System Versus a Gross Pool System

A number of Rule Participants have canvassed the merit of adopting a gross pool system (as adopted in the NEM), instead of a net pool system. In a gross pool system, all energy is bid into the central market, and dispatched according to bids. In a net pool system, only the residual amounts relative to the contracted amounts of energy are bid into the central market.

The adoption of a gross pool system rather than a net pool system would require fundamental restructuring of the WEM. At this early stage of the market, the Authority's view is that it would be inappropriate to consider such a fundamental change to the market.

5.5 Balancing Mechanism

Some Rule Participants have raised issues in relation to the balancing mechanism and, in particular, pricing in the balancing mechanism.

Specifically, these Rule Participants raised concerns about the prices from the STEM being used in the balancing mechanism (unless the real-time effective demand deviates from the total demand expected by more than five per cent). These Rule Participants indicated that they are concerned about the competitiveness of the STEM and that, while they can control their exposure to STEM prices in the STEM by not participating in that market, they cannot control their exposure to STEM prices in the balancing mechanism.

Some Rule Participants suggested that the Marginal Cost Administrative Price (**MCAP**), which is the balancing price where demand deviations exceed five per cent, should be calculated for all trading intervals. This in itself however, would do little to address the issue of the impact of STEM prices on balancing prices because the MCAP price is calculated based on portfolio supply curves from the STEM. (28) The Authority considers that these concerns about balancing prices reflect concerns about the competitiveness of prices in the STEM. Concerns about the effectiveness and competitiveness of the STEM are addressed in Section 5.4 above of this Discussion Paper.

(28) This skips over the point that there is no sensible reason not to always calculate the new balancing price according to the actual demand, thus matching it to the portfolio supply curves (reflecting the SRMC at that volume). What is the logic to say that it should only be done when demand deviations vary by more than 5%? There are no operational issues that require considering and even if there were, these should be addressed if necessary.

An alternative to basing balancing prices on STEM prices (or, in the case of MCAP, on STEM bids), is to implement a competitive balancing system. Some Rule Participants commented that while the balancing mechanism would likely benefit from competition, a competitive balancing mechanism would be complicated (29) and is likely to be inappropriate at this early stage of the market. The Authority agrees with this view, noting that the ability of generators other than Verve Energy to offer real-time balancing at this early stage of the market is substantially constrained, so that achieving a competitive balancing market at this stage would be difficult.

(29) How has the ERA made the conclusion that competitive balancing mechanisms are complicated? Verve Energy would argue that the complexity is a function of the underlying requirement to balance the market, and that the market mechanism would be no more or less complex that the existing arrangement. Implementing a competitive balancing mechanism that

provides a level playing field for all market participants is an important step in ensuring efficient and competitive pursuit of market objectives. The argument for not providing a competitive balancing mechanism because it is difficult needs to be justified.

The difficulty of implementing a competitive balancing mechanism at this stage is also relevant to other comments in regard to balancing prices: for example, that Verve Energy faces MCAP prices for balancing, while other generators face their pay-as-bid prices for balancing, which disadvantages Verve Energy. However, the Authority considers that, in the absence of a competitive balancing mechanism, it would be inappropriate to set balancing prices at pay-as-bid prices for all generators. In addition, to set balancing prices at pay-as-bid prices for all generators would be unlikely to result in competitive balancing prices due to potential exercise of market power in the WEM. (30)

(30) In the absence of a competitive balancing mechanism, pay-as-bid prices should be regarded as the most appropriate for determination of balancing prices and should apply to all market participants. Currently, as the sole provider of balancing services, Verve Energy should not be disadvantaged by an unreasonable balancing price mechanism.

The biggest flaw in the current balancing arrangement is that the price paid does not accurately represent the physical position of Verve Energy as the balancing provider. The means by which MCAP is calculated needs to be reviewed to ensure that it remains more linked to Verve Energy's physical position otherwise any effort in scrutinizing Verve Energy's pricing becomes pointless as the physical cost is rarely represented by MCAP under the current regime. The inclusion of wind variations from contracted position is essential as a minimum. We welcome the ERA's consideration of this inefficiency in the market design as part of this review.

5.6 Dispatch Process

The Dispatch Process is performed by System Management. Rule Participants are generally satisfied with the performance of System Management in dispatching their plants in an efficient and effective manner.

Some Rule Participants commented that the dispatch process under the WEM has added an extra layer of complexity to their operations. In particular, some Rule Participants noted that the dispatch process now requires a Rule Participant to interact directly with System Management's dispatch system, rather than simply phoning System Management.

The Authority understands that the more formalised process for interacting with System Management is intended to improve the security of System Management's processes, including by ensuring the creation of records of communications that can be audited in the case of dispute. The Authority considers the current arrangement to be appropriate.

5.7 Planning Processes in the WEM

A number of Rule Participants raised concerns with the outage planning process.

These Rule Participants made comment that the outage planning process is more complicated than before market commencement. It was noted that the planning process is a two step process, where the participant must first submit details of a proposed outage plan and then, subject to this plan being scheduled by System Management, must apply for approval of the outage plan. There was also comment that the outage planning process can create some uncertainty. Even in the case where outages are scheduled by System Management, the

outage cannot commence until approval is granted. System Management is required to give final approval of an outage two days before the outage is scheduled to commence. Concern was expressed that this can sometimes leave participants incurring costs if they are required to reschedule outages.

The Authority notes that the two step outage planning process is designed to provide for the security of the system. The scheduling of outages facilitates longer term planning of outages, so that generators can operate their facilities effectively. The requirement for approval of outages is designed to preserve the security of the system. The Authority accepts that this creates some uncertainty for participants, but considers that this is necessary to ensure the security of the system.

In regard to the costs of rescheduling outages, the Authority notes that, in the event that a scheduled outage plan is not approved within 48 hours of the scheduled commencement of the outage, the affected participant may apply for compensation under clause 3.19.12 of the Market Rules. Compensation is subject to certain conditions as set out in the Market Rules. The Authority understands that to date there have not been any applications for compensation as a result of a scheduled outage not being approved.

5.8 Effectiveness of the IMO in carrying out its Functions

Rule Participants were generally positive about the performance of the IMO. Staff members of the IMO were considered to be helpful and approachable. Some Rule Participants did, however, identify several issues in relation to the effectiveness of the IMO in performing its functions. These issues included the following:

- **Adequacy of IT infrastructure.** Some Rule Participants commented that they considered that the IMO's IT systems are in need of upgrading.(31) The Authority understands that there have been four instances in which the STEM has been suspended as a result of system problems. The Authority notes that the IMO has issued reports on these instances of market suspensions, including actions and recommendations to minimise the probability of future occurrence.

(31) There is little doubt that the IMO's IT systems need upgrading in terms of available performance. They have already requested that automated downloading of reports should be scheduled in certain time windows, which whilst it does not pose a problem at present, could well do in the future as more Rule Participants use this facility or if there is a requirement to speedily re-download large numbers of reports. Also, the IMO's IT systems have undergone several system restarts since commencement of market and this raises concerns as to how robust and stable the IMO's systems are in supporting a 24/7 operation.

There is currently no test IT system available for the IMO and Rule Participants to test any system changes on either side that are interactive. This is a far from ideal situation. A basic test system must be provided as soon as possible for this business critical application. The IMO has its own internal testing capability but cannot test Rule Participant interaction.

The IMO has also indicated strongly that it wishes to avoid any system changes to the ABB developed functionality of its IT system. This situation has already resulted in a slightly unsatisfactory system solution to an agreed rule change being implemented in the System Management System rather than the IMO system. Whilst this was a pragmatic decision, measures should be taken to prevent this from being an ongoing issue.

• **Usability of the IMO's IT system.** Some Rule Participants commented that they have been unable effectively to use the IMO's IT systems. For example, some Rule Participants noted that the WEM Interface is difficult to use and lacks a comprehensive instruction manual. (32)

(32) We can only support this view but acknowledge that remedying this situation may well prove a time consuming and costly exercise, if not practically impossible in some areas. A comprehensive instruction manual would no doubt be of great benefit – particularly to new Rule Participants. The screens (especially the STEM submission screens) are cumbersome and far from being a friendly data entry interface. Although we currently use the file exchange mechanism to make submissions, should there be a need for a back-up or alternative means to perform data entry it is not easily achieved through the WEMS.

• **Invoicing.** Some Rule Participants raised issues in relation to IMO's invoicing (33). In particular, these Rule Participants considered that there was a lack of transparency in the IMO's invoices, and raised concerns about invoice errors.

(33) The accuracy of the Non-STEM invoices has been disappointing and whilst understanding how and why many of these have occurred (separate systems for daily operations and settlement present problems), and the efforts that the IMO is going to, to eliminate them, effort needs to continue to be focused on this area until the process becomes effectively error free. We believe that there are still numerous manual processes involved, which would benefit from being automated.

A review of the data items provided to Rule Participants via the Participant Information Reports should be undertaken as additional data items could probably be provided to assist invoice reconciliation and aid transparency.

To its credit, the IMO's original overly defensive attitude reagrding its invoices has been replaced with a more open and responsive attitude to suspected errors, and the individual efforts of many of its staff deserve commendation.

• **Market training by the IMO.** Some Rule Participants expressed the view that the IMO should provide more training to Rule Participants. Some Rule Participants have also acknowledged that the IMO is responding to this issue and is currently organising further market training sessions for parties involved in the market.

• **Appropriateness of the IMO's requirements for small Rule Participants.** A number of Rule Participants raised issues with some of the IMO's requirements, questioning whether they were appropriate for small Rule Participants. For example, there was comment that the Austraclear system is very costly and adds little value to the business operations of the participant.

Discussion Point 8

The Authority invites comment on the effectiveness of the Independent Market Operator in carrying out its functions. (34)

(34) The IMO's role is currently clouded by its participation in the rule change process. The functions of the IMO should be restructured to enable it to focus on its core responsibility being the efficient operation of the WEM under the given rules. Rule changes should be handled external to the IMO with the IMO being permitted to make change requests and submissions as any participant can but without having a role in the administration of the process. A suggestion may be that the rule change process be taken up as one of the functions of the ERA.

The massive rise of Market Fees in 2007/08 is of great concern. Total revenue to be recovered through Market Fees was $9.868 million for 2006/07 (full year equivalent). This has increased by 52% to $15.013 million for 2007/08. Contributing to the increase, IMO revenue requirement has risen by 41% (from $7.336 million to $10.346 million), whilst System Management revenue requirement has risen by 98% (from $2.213 million to $4.392 million). The Market Fee rate has increased by 13% (from $0.413/MWh to $0.468/MWh).

It should be noted that a large proportion of the Market Fees (approximately 87% or $13 million) will be effectively funded by Verve Energy. Verve Energy must pay its share of the market fees on the supply side. It also pays for Synergy's share on the customer side due to the Netback Arrangement under the Vesting Contract. The tariff freeze until 2009 means that Synergy will be unable to pass-through the market fees to customers and Verve Energy has to absorb the extra costs.

5.9 Effectiveness of System Management in carrying out its Functions

Rule Participants have stated that they are generally satisfied with the performance of System Management.

Discussion Point 9

The Authority invites comment on the effectiveness of the System Management in carrying out its functions.

5.10 The Market Rules

5.10.1 Specific Issues in Relation to the Market Rules

During initial discussions with Rule Participants there were a number of comments made on several specific aspects of the Market Rules.

In regard to the objectives set out in clause 1.2.1 of the Market Rules, a Rule Participant viewed objective (c) as ambiguous and in need of clarification. Clause 1.2.1(c) reads as follows:

> to avoid discrimination (35) in that market against particular energy options and technologies, including sustainable energy options and technologies such as those that make use of renewable resources or that reduce overall greenhouse gas emissions;

(35) In Verve Energy's opinion, the rules as they are currently written discriminate too heavily in favour of wind generating plants. Careful consideration needs to be given to ensuring wind proponents are getting effective market price signals as to where and when windfarms should be constructed and how big they should be. Under the current rules a financially and environmentally unsustainable position could be reached through over-penetration of wind.

While this objective gives explicit recognition to renewable and low-emission technologies, the question has been raised as to whether the objective is intended to cause all technologies to compete on a "level playing field" or is intended to encourage development of sustainable generators by conferring relative advantage.

The Authority considers that the review represented by this Minister's Report is not the preferred

forum in which to consider the wording of the Wholesale Market Objectives set out in clause 1.2.1.

In regard to Chapter 5 of the Market Rules, some Rule Participants suggested that the Chapter should be substantially changed or removed entirely. The Authority's view is that this review is not the preferred forum (36) in which to consider whether Chapter 5 should be removed. The Market Rules themselves set out a rule change process, and the Authority considers that in this circumstance, this rule change process would be the preferred mechanism for any such changes to the Market Rules.

(36) ERA seems to overlook its role in ensuring market efficiency. It is not appropriate to simply pass this responsibility to the IMO.

5.10.2 Market Design Overly Complicated

Some Rule Participants commented that the Market Rules are unnecessarily complicated and ambiguous. They expressed appreciation of the circumstances surrounding the speed with which the market had to be established, but consider that the Market Rules need to be simplified and clarified. Some Rule Participants suggested that it could be possible to develop guidelines, in addition to the rules, to provide a simplified overview of the Market Rules.

The Authority notes that the IMO has made available both an overview of the WEM and a summary of the WEM. These documents provide an overview of the market, although neither should be relied upon in place of the Market Rules.

The Authority notes that the IMO conducted training sessions on the WEM in the months preceding the start of the market, and understands that the IMO is about to recommence these training sessions. The Authority also notes that, at this stage, the rule change process can be used to address any problems with the Market Rules on an incremental basis.

Discussion Point 10

The Authority invites comment on any further steps that could be taken to assist Rule Participants in understanding the Market Rules.

5.10.3 Market Rules and DSM

Some Rule Participants have expressed the view that the Market Rules do not provide adequate guidance on how DSM integrates with the WEM. The Authority recognises that the participation of DSM in the WEM is an important element of the overall effectiveness of the WEM, and considers that, to the extent that any aspect of the involvement of DSM in the WEM is unclear, the development of guidelines in regard to the participation of DSM may be appropriate.

Discussion Point 11

The Authority invites comment on any aspects of the participation of Demand-Side Management in the Wholesale Electricity Market that remain unclear to Rule Participants.

5.10.4 Compliance

Rule Participants noted that the compliance monitoring measures are generally clear. Some Rule Participants, however, did note the risk associated with there being no cap or maximum on

the liability faced by a Rule Participant, particularly where rules may be ambiguous or difficult to interpret. It was noted that a Rule Participant's liability for failing to comply with the Market Rules could threaten the financial liability (37) of the Rule Participant. It was suggested that a cap should apply to the maximum number of trading intervals in regards to which a Rule Participant can be subject to a compliance investigation.

(37) This should be "viability".

The Authority's view at this stage is that it would be inappropriate to consider imposing limitations on Rule Participants' potential liability. (38)

(38) It would be helpful if the ERA explained its position rather than simply stating it. Does that mean the ERA considers it appropriate for Rule Participants to be financially threatened where there is ambiguity or interpretational difficulty? How is the efficiency of the market helped by the current financial penalty regime?

5.10.5 Rule Change Processes

Rule Participants raised some concerns with the rule change process.

Firstly, some Rule Participants expressed concern about the lack of separation between the IMO's role as the entity responsible for making decisions on rule change proposals and its role as the administrator of the Market Rules. (39) The Authority notes that cost considerations were an important factor in making the IMO responsible for rule change proposals. In particular, creating a separate body with responsibility for the rule change process would create significant costs (40), which may be difficult to justify in Western Australia at this stage.

(39) IMO operating as rule maker and rule administrator gives rise to a potential conflict of interest.

(40) The largest portion of the costs associated with the handling of rule change proposals is, in practice, in the area of fully defining and agreeing the final detail and implementation of the rule change. We feel that where a sensible rule change to improve the long-term fairness of the market is likely to involve significant effort in changes throughout the rules, the IMO may be unduly influenced in thinking it is not worthwhile. The validity or acceptability of a rule change should be independently assessed, prior to evaluating the effort involved in implementing it. If necessary, it can then be formally subjected to a cost benefit appraisal before a decision is formally made to proceed or otherwise.

Secondly, some Rule Participants expressed concern about the Fast Track Rule Change Process. Rule Participants suggested that the rule change process can be quite slow, even in the case of the fast track process. Rule Participants also suggested that the criteria for classifying a rule change process as fast track may not be adequate. The Authority considers that an appropriate rule change process is an important element of an effective market. In particular, the Authority considers that it is important to achieve an appropriate balance between ensuring that rule change proposals can be progressed as quickly as possible and ensuring that adequate public consultation is undertaken. Even the fast track process involves public consultation, so that there is a limit to how quickly fast track rule change proposals can be progressed.

Discussion Point 12

The Authority invites comment on the adequacy of the existing rule change process. In particular, the Authority is interested in whether or not the current process achieves an appropriate balance between cost, timeliness and transparency. (41)

(41) The ERA should consider the costs imposed on the industry through having the IMO as both rule administrator and rule maker. There are other potential candidates for the role of rule maker that do not have the conflict of interest of also being the rule administrator and a market participant. This may not greatly increase the cost.

The rule change timeframe is overly lengthy. The fast-track process is slow and the standard process almost snail-like. While adequate market participant and public consultation is clearly important, consideration should be given to whether both processes can be streamlined.

The dynamics of the Market Advisory Committee ("**MAC**") should also be considered. It is unlikely that MAC members will support changes to level the playing field when rules that specifically advantage them at the expense of one player (Verve Energy) are challenged.

5.11 Other Issues

5.11.1 Fuel Supply Problems

Some Rule Participants commented on fuel supply issues, in particular the constraints on the availability of gas.

These Rule Participants noted that gas supply problems in Western Australia have a major impact on the performance of the WEM. The Rule Participants expressed two related concerns in respect of the gas supply. The first is that it is increasingly difficult to secure gas contracts. In the process of undertaking public consultation for its review of gas issues in Western Australia, the Authority has been informed that the gas supply is increasingly tight, that it is increasingly difficult to negotiate long term gas contracts, and that the price of gas has recently increased. The second concern raised by these Rule Participants is that there is a lack of notification of constraints on pipeline capacity, which can create problems for the operation of generators.

The Authority considers that fuel supply problems do not necessarily imply any issues with the effectiveness of the design of the WEM in meeting the market objectives. Indeed, an effective WEM should enable Rule Participants to better manage any fuel supply problems that they face (42)

(42) Verve Energy asks the ERA to expand on this conclusion.

The Authority, however, recognises that fuel supply problems are likely to impact on the operation of the WEM. At the extreme, an inability to secure firm contracts for fuel or for transport can have implications for both investment in new generation, and for the operation of existing generation facilities. The Authority intends to investigate the impact of gas supply constraints on the operation of the WEM for the purposes of this review. The Authority however, considers that addressing gas supply problems is beyond the scope of this review, and that introducing changes to the operation of the WEM to address gas supply problems cannot bring about a long term solution to these problems.

Discussion Point 13

The Authority invites comment on any fuel supply constraints faced by Market Participants, and the impact that any such constraints have on the effectiveness of the Wholesale Electricity Market. In particular, what impact, if any, do fuel supply constraints have on the operation of markets for capacity and energy?

5.11.2 Network Access Issues

Some Rule Participants commented that there are issues relating to access to the electricity transmission and distribution networks that adversely affect the effectiveness on the WEM.

Some Rule Participants commented that the infrastructure of the electricity transmission and distribution networks is inadequate, and that as a result generators are not readily able to gain access to the network. These Rule Participants noted that the requirement for participants to have an access offer from Western Power, in order to be granted capacity credits, potentially restricts new entry, and that the cost of transmission connection and access can also create barriers to entry, particular for smaller generators. It was suggested that one way of making access issues less of an issue would be to introduce a rolling reserve capacity mechanism timetable, so that participants who were unable to receive an access offer from Western Power in time for the existing deadline would not need to wait another year to secure capacity credits.

The Authority recognises that network access issues will necessarily have implications for the WEM, and that the requirement to have an access offer from Western Power can create a hurdle for generators in securing capacity credits. Without an access offer from Western Power, however, there is no guarantee that the generator will be able to provide capacity. If generators are granted capacity credits without an access offer from Western Power, that capacity may not be available by the relevant capacity year, and the Reserve Capacity Mechanism may not succeed in ensuring that sufficient capacity is available to the WEM. As a result, the Authority considers that the requirement for an access offer is an important part of the Reserve Capacity Mechanism.

The Authority also considers that a firm timetable for the Reserve Capacity Mechanism is important. The capacity cycle works to relatively tight timetables, with applications for certification of reserve capacity due a little more than two years before the start of the relevant capacity cycle. A deadline is required for the IMO to establish that there will be sufficient capacity available for the relevant capacity year, and this deadline needs to provide sufficient time for the construction of new generation plant, if necessary. A rolling deadline would impede the ability of the IMO to establish that there is sufficient capacity for a capacity year.

5.11.3 Consequential Outage

Some Rule Participants raised concerns about the impact of consequential outages. Consequential outages are outages for which no approval is received from System Management, but which System Management determines was caused by a forced outage to another participant's equipment. These Rule Participants noted that they are not in a position to control consequential outages, but that they face potentially substantial financial losses as a result of consequential outages. The Rule Participants noted that an alternative arrangement is to make Western Power liable for financial losses associated with consequential outages.

The Authority understands that participants have some ability to manage their exposure to consequential outages through their contracts for network services. In particular, the Authority understands that some participants have entered into contracts for network services that provide for their use of the network to be scaled back under some network contingencies. Contracts of this type reflect a commercial decision that the terms of the contract are sufficiently favourable to justify additional exposure to network outages.

Discussion Point 14

The Authority invites comment on the materiality of the financial impact of consequential outages.

The Authority also invites comment on the extent to which participants are able to manage their exposure to consequential outages through commercial arrangements. If participants are unable manage their consequential outages through commercial arrangements, the Authority invites comment on the impact of consequential outages on the effectiveness of the Wholesale Electricity Market. (43)

(43) This is an area in need of attention under the WEM rules. At the moment a consequential outage can only be approved if the event was unplanned. This excludes planned network outages which force generating capacity from the system, requiring a capacity refund to be paid, when the generating plant is fully available to generate. Under current procedures impacted generators usually receive a request from Western Power to submit a planned outage request for the period of the network outage to avoid an RCAP refund however the generator remains exposed should a delay to the network outage extend the restriction on the generator beyond the planned outage period. The area needs review and re-consideration and System Management has previously indicated that it intends to make a rule change submission on the matter.

5.11.4 Planning Network Outages

Some Rule Participants also questioned the extent to which network outages within the SWIS are dealt with effectively in the outage planning process. These Rule Participants suggested that, while the outage planning process may be effective at coordinating generator outages, there was a lack of coordination of network outages.

Discussion Point 15

The Authority invites comment on whether the process for scheduling network outages affects the achievement of the objectives of the Wholesale Electricity Market.

5.11.5 Retail Tariff Too Low

Some Rule Participants indicated that regulated retail tariffs in the SWIS are set below the cost of supplying electricity. These Rule Participants commented that this, in turn, has negative impacts for the financial viability of affected Rule Participants, and does not send appropriate signals for retail entry.

The Authority recognises that cost-reflective retail tariffs are important for an effective market. The Authority considers however, that the issue of the cost-reflectivity of regulated retail tariffs is beyond the scope of this review of the WEM (44). The Authority notes that the Office of Energy is currently undertaking an Electricity Industry Review, where the Terms of Reference include the consideration of the cost-reflectivity of regulated retail tariffs in the SWIS.

(44) Where the impact of the tariffs is directly interfering with the objectives of the WEM and inhibiting market development, it can be argued that this is a legitimate, and even essential, point to make to the Minister.

5.11.6 Confidentiality Issues

Some Rule Participants raised concerns about the information confidentiality provisions in the Market Rules. In particular, these Rule Participants noted that the confidentiality status of some types of market related information has hindered the effective operation of their business operations.

The Authority recognises the need to adopt a well-balanced approach in dealing with confidential information – while transparency will often improve the operation of a market, transparency can also facilitate coordinated behaviour and damage efficiency. In addition, it is important to safeguard confidential information to protect the commercial interests of Rule Participants. The Authority considers that recommendations in regard to the confidentiality status of particular types of market related information, in this circumstance, are best dealt with through the rule change process. However, the Authority is interested generally in the impact that the confidentiality of information has on the effectiveness of the WEM.

Discussion Point 16

The Authority invites comment on whether the confidentiality of information has impacted on the effectiveness of the Wholesale Electricity Market and, if so, how?

5.11.7 Prudential Requirements

Some Rule Participants raised concerns about the prudential requirements set out in the Market Rules and Market Procedures. These Rule Participants suggested that the basis of the calculation of the credit limit for Rule Participants is inappropriate.

The Market Rules require that the credit limit is determined as the maximum amount a participant is expected to owe the IMO over any 70 day period, and such that the amount is not expected to be exceeded more than once in 48 months. Where credit criteria are not met, the

IMO will require the market participant to provide credit support not less than the credit limit determined by the IMO.

Rule Procedures determine a methodology for determining the credit limit based on the total exposure of a participant for those 70 days for which the participant had the greatest exposure.

Rule Participants have suggested that the determination of the 70 days for which a participant had the greatest exposure should exclude a period following market commencement, because the exposure of participants during that period was not reflective of the exposure that they would ordinarily face.

The Authority considers that it is not evident that the exposure of participants during the period after market commencement is higher than the exposure participants would ordinarily face. The exposure of participants may, in fact, increase over time, in which case the calculation of the credit limit would be adjusted. In any case, the Authority recognises that the prudential requirements play an important role in limiting the exposure of all participants in the event that one participant defaults. The Authority also considers that the prudential requirements are unlikely to impair the effectiveness of the WEM because its net financial impact on Rule Participants is minimal. This is because any security deposit lodged with the IMO accrues interest at the bank bill rate that is paid to the participant at the end of each month.

5.11.8 Supplier of Last Resort

Some Rule Participants have noted concerns about Supplier of Last Resort (**SOLR**) arrangements. Rule Participants have commented that the lack of certainty in regard to SOLR arrangements can discourage customer switching and impede retail competition. Rule Participants were also concerned that SOLR arrangements may not appropriately deal with situations in which the IMO temporarily suspends a retailer's licence.

The Authority notes that Part 5 of the *Electricity Industry Act* provides for the establishment and operation of SOLR arrangements in the event that the licence for a retailer is cancelled, surrendered, or expires and is not renewed. The Authority understands that the Office of Energy is currently engaged in a process to establish SOLR arrangements. The Authority understands that the Office of Energy is aware of the issue of temporary licence suspensions.

Given SOLR arrangements are not yet finalised, the Authority does not intend to make recommendations in regard to SOLR arrangements for the purposes of this review, but will reconsider the issue for future reviews.

5.11.9 Ancillary Services

Some Rule Participants noted that the Market Rules make it difficult for participants other than Verve Energy to supply ancillary services. These Rule Participants commented that they considered themselves in a position to supply ancillary services, but were unable to do so as a result of the Market Rules.

The Authority notes that the Market Rules require Verve Energy to make its capacity available to provide ancillary services to a standard sufficient to enable System Management to meet the ancillary service requirements. The Market Rules allow System Management to enter into an ancillary service contract with a participant, other than Verve Energy, where System Management does not consider that it can meet the ancillary service requirements with Verve Energy's facilities, or where a participant can provide ancillary services less expensively than Verve Energy.

The Authority considers that the current arrangement favours the supply of ancillary services by Verve Energy, and that other participants may find it easier to supply ancillary services under a more competitive process. Some form of market for the supply of ancillary services, however, would also increase the complexity of the WEM (45), which some Rule Participants have commented they consider too complex already.

(45) Verve Energy agrees with the view that the market rules are overly complex with regard to the provision of Ancillary Services and could be easily simplified. As, in practice, the IMO's IT systems do not link the quantities of Ancillary Services requested from a Rule Participant by System Management (via the IMO), to the invoicing process, this entire area could be removed from the rules and the supporting system, somewhat simplifying the daily processes. This would not preclude amending the market rules to increase competitiveness for supplying these services.

Discussion Point 17

The Authority invites comment on whether a more competitive process for the supply of ancillary services would promote the effectiveness of the Wholesale Electricity Market. In particular, do the current requirements under the Market Rules for an ancillary service contract prevent or deter participants from supplying ancillary services and, if so, how?

5.11.10 Metering

Some Rule Participants noted that generators are required to pay the cost of new metering infrastructure. These Rule Participants considered that this could constitute a barrier to entry, given the costs.

The Authority considers that an efficient generator is able to recover its costs through the markets for capacity and energy in the WEM (46). This includes any costs associated with metering. Furthermore, the rule change process is an available option for Rule Participants to address this concern. The Market Rules make provision for public consultation on a rule change proposal. The Authority would participate in the consultation process if it considers the issue has an impact on the WEM in achieving its market objectives.

(46) Verve Energy disagrees with this conclusion. To illustrate, consider the simple example of a new investor considering investment in one of two gas-fired generators. The first generator is more expensive but has a higher efficiency that the second generator. Both would operate in a mid-merit to peaking capability with the same number of hours of operation and the same number of hours as the marginal (price-setting) unit in the STEM. These assumptions are valid for generators in mid-merit and peaking roles.

The revenue available to either generator from the capacity mechanism is the same.

If the investor builds the first generator, it can and must offer its power into the STEM at a lower cost than the second generator. While this may be considered good for the market, for all the hours the first generator is the marginal unit, it earns no revenue to justify the additional capital cost incurred to deliver higher efficiency. It is only when less efficient generators are also dispatched that the first generator gets to earn a return on the additional capital employed to improve efficiency. The price received in these time periods is restricted further by the application of price caps below the operating cost of some competing generators.

If the investor builds the cheaper but less efficient second generator, in this simplified example it can receive the same dispatch at a higher price. This assumes that both generation options fall within the same dispatch “step” in the market. Like the first generator, it is only when less efficient generators are dispatched that it receives revenue over its short run marginal cost.

As the surplus cashflows available to the investor are the same with both generation options, it will select the less efficient generator and thereby avoid the capital expenditure. The efficient generator is prevented from capturing the value of its investment due to the restrictions of the STEM market.

The ERA should present the analysis it conducted to reach the conclusion that efficient generators are sufficiently rewarded in the WEM as the opposite appears to be true.

5.12 Specific Events which impact on the WEM and Inappropriate and Anomalous Market Behaviour

Clause 2.16.12(c) of the Market Rules requires the Minister's Report to include an assessment of any specific events, behaviour or matters that impact on the effectiveness of the market.

Discussion Point 18

The Authority invites comment on any specific events, behaviour or matters (not covered elsewhere in this Discussion Paper) that have impacted on the effectiveness of the market. In particular, the Authority invites comments on any specific events, behaviour or matters that are relevant to the achievement of the objectives set out in clause 1.2.1 of the Market Rules.