Discussion Paper:

Annual Wholesale Electricity Market Report to the Minister for Energy

15 July 2009

Economic Regulation Authority
WESTERN AUSTRALIA

Corrigenda

20 July 2009 – In the version of this paper published on 15 July 2009, Discussion Point 4 in the 'Summary of Issues' section was incorrectly worded insofar as it was inconsistent with the correctly worded Discussion Point 4 as set out in the body of the report on page 22. In this version of the report Discussion Point 4 in the 'Summary of Issues' section has been corrected in order to be consistent with Discussion Point 4 on page 22.

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Network Connection Applications, Access Rights and Capital Contributions for Shared Network Assets

Discussion Point 2

The Authority invites comment on the extent to which the risk that a network connection application will not be offered on time impacts on investment incentives, including incentives to invest in new facilities in particular geographic locations of the network.

Discussion Point 3

The Authority invites comment on network connection applications. In particular:

- to what extent would it be appropriate for Western Power to require that a sizeable bond be lodged with an application for network access;
- to what extent would it be appropriate for Western Power to discriminate between connection applicants (other than based on their places in the sequence of the relevant queue); and
- if other means of discrimination between connection applicants are appropriate, taking into consideration Western Power's queuing guide, what should be the basis for such discrimination.

Discussion Point 4

The Authority invites comment on the application of capital contributions for shared network assets charged by Western Power.

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Discussion Point 5

The Authority invites comment on the decommitment of thermal plant. In particular:

- to what extent is the overnight decommitment of thermal plants consistent with the Market Objectives; and
- given that System Management will be guided by the Dispatch Merit Order and by system reliability considerations, to what extent is System Management's approach for decommitting plant overnight appropriate, transparent and predictable.

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The Authority invites comment on issues surrounding the penetration of intermittent generation in the Wholesale Electricity Market. In particular, what approach is required to balance system security and avoid discrimination against any generation technology.

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The Authority invites comment on the adequacy of plant outage information in light of:

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The Authority invites comment on what factors may inhibit a generator from participating in the competitive procurement of ancillary services.

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The Authority invites comment on the key benefits and costs of installing revenue-quality meters at Verve Energy's plants in place of relying on System Management's Supervisory Control and Data Acquisition (SCADA) data.

The Authority also invites comment on the key benefits and costs of using estimated meter readings for the first round of settlement instead of waiting for all interval meters to be read by the metering data agent.

Competitive Balancing

Discussion Point 11

The Authority invites comment on competitive balancing. In particular, ahead of the introduction of competitive balancing, to what extent is it appropriate to:

- require the equivalent of a Resource Plan from Verve Energy;
- enhance reporting in respect of outages by unit, and fuel usage changes from plan; and
- make any other operational changes.

Rule Change Process

Discussion Point 12

The Authority invites comment on the Rule change process. In particular, given the potential for the more active Market Participants to be better placed to argue their position on Rule change proposals, the Authority invites comment on:

- whether there is sufficient balance in the Market Participant classes represented on the Market Advisory Committee; and
- whether a better resourced Independent Market Operator could address concerns relating to the self-interested positions taken by Market Participants.

Discussion Point 13

The Authority invites comment on:

- the extent to which the Rule change process could be reasonably delineated to separate operational from more strategic matters; and
- whether a different assessment process should apply to strategic Rule changes.

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The Authority invites comment on the effectiveness of the Independent Market Operator, System Management and the Economic Regulation Authority.

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Discussion Point 15

The Authority invites comment on options for promoting efficiency in network planning and investment that are consistent with the Reserve Capacity Mechanism requirements.

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Discussion Point 16

The Authority invites comment on the gate closure timing in the Short Term Energy Market (STEM). In particular, given that the issue of STEM gate closure timing will be considered as a part of the proposed road map process, the Authority invites comment on:

- leaving the STEM gate closure as it is; or
- moving STEM gate closure closer to the start of the trading day.

Discussion Point 17

The Authority invites comment on the benefits provided by the Short Term Energy Market (STEM).

Price Caps and Bidding Rules

Discussion Point 18

The Authority invites comment on the appropriateness of the price caps and bidding rules in the Wholesale Electricity Market.

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Discussion Point 19

The Authority invites comment on the appropriateness of the Reserve Capacity Mechanism for determining the Reserve Capacity Price. In particular:

- is there any evidence demonstrating that overall pricing signals provided in the Wholesale Electricity Market (for capacity and energy) are encouraging an inappropriate mix of plant; and
- are there alternative mechanisms, or changes to the Reserve Capacity Mechanism, that could better achieve the Market Objective of promoting the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West Interconnected System.

Discussion Point 20

The Authority invites comment on the merits of moving the Reserve Capacity Mechanism to more than 2 years in advance of the relevant Capacity Year, and the extent to which such a change could assist in resolving network access application problems.

Discussion Point 21

The Authority invites comment on the extent to which changes to the Reserve Capacity refund mechanism can better promote the Market Objectives.

Discussion Point 22

The Authority invites comment on whether the Reserve Capacity refund mechanism should be included for consideration as part of the road map proposed in the Authority's 2008 review of the market.

Incentives for Demand Side Management

Discussion Point 23

The Authority invites comment on the extent to which the regulatory arrangements surrounding the incentives for parties to engage in Demand Side Management are appropriate.

Industry Structure and Regulatory Settings

Discussion Point 24

The Authority invites comment in respect of the impact of structural issues on the effectiveness of the market and achievement of the Market Objectives.

1 Introduction

The purpose of this Discussion Paper is to assist those interested in making submissions on issues regarding the effectiveness of the Wholesale Electricity Market (**WEM**) in meeting the Wholesale Market Objectives. Submissions from interested parties will enable the Economic Regulation Authority (**Authority**) to prepare a report to the Western Australian Minister for Energy (**Minister**), pursuant to clause 2.16.11 of the Wholesale Electricity Market Rules (**Market Rules**). The Authority will produce the Annual Wholesale Electricity Market Report (**Minister's Report**) after considering submissions received during this public consultation process and analysis of available data.

1.1 How to Make a Submission

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 13 August 2009. Submissions 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: publicsubmissions@era.wa.gov.au
Fax: (08) 9213 1999

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:

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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 provide at least annually a report to the Minister on the effectiveness of the WEM, or a more frequent report where the Authority considers that the WEM is not effectively meeting the Wholesale Market Objectives. The Minister's Report is to include any recommended measures to increase the effectiveness of the WEM in 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 information and data compiled by the Independent Market Operator (**IMO**) and the Economic Regulation Authority under clause 2.16.1;
- the Economic Regulation 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 Previous Minister's Report

This Discussion Paper is part of the process for the preparation of the third Minister's Report by the Authority. The Authority provided the second Minister's Report to the Minister for Energy on 5 November 2008, and released a public version of that report on 18 December 2008.

In the second Minister's Report, the Authority noted that it had approached its assessment of the performance of the WEM against the Wholesale Market Objectives in the context of both the relatively short life of the WEM and the evolving structure of the industry and market design. As a result, the Authority assessed the performance of the WEM against the Wholesale Market Objectives:

- within the constraints of the current industry structure and market design;
- by identifying market design issues that needed to be resolved to ensure that the WEM continues to evolve in a manner that promotes the Wholesale Market Objectives; and
- by identifying broader issues relating to the WEM's industry structure and regulatory settings that affect the extent to which the market could continue to meet the Wholesale Market Objectives irrespective of any developments in market design.

Overall, the Authority found that the WEM was meeting the Wholesale Market Objectives, but that various issues needed to be resolved or addressed to ensure that the market would continue to meet its objectives. In summary, the Authority considered that:

- issues arising within the current industry design – such as the process for handling network connection applications – could be addressed through WEM processes, including the Rule change process;
- market design issues – such as the appropriateness of the current 'unconstrained' approach to network planning, moving the STEM closer to real time and introducing competitive balancing – should be addressed through a longer term 'road map' process led by the Office of Energy as the key policy-making body for the WEM; and
- broader structural and regulatory issues – such as the dominant role of Verve Energy and Synergy in the WEM and the lack of cost reflective (regulated) retail tariffs – could stunt market evolution and prevent the WEM from meeting market objectives in the future.

In response to the last Minister's Report, the Authority understands that the Office of Energy has included an electricity market road map task in the draft Operational Plan for its Markets and Regulatory Policy Division, but that commencement of this work is subject to the availability and operational prioritisation of funding and staff. The Authority also understands that the IMO has offered support and resources to assist the Office of Energy.

The Authority is aware that the State Government recently signalled potential changes to the structure of the industry, including the possible merger of Verve Energy and Synergy. The Authority also notes the Government's recent announcement regarding proposed investment at Kwinana Power Station and the refurbishment of Muja A/B. To the extent

such moves may contribute to a more concentrated industry structure, the Authority welcomes views on the potential impact on the WEM effectively meeting the Wholesale Market Objectives. Evidence in other electricity markets suggests that the ongoing success of the market, particularly in delivering benefits to end-users, will depend on competition in both the generation and retail sectors. During recent informal stakeholder consultations, the majority of parties have expressed concerns to the Authority regarding the negative impacts associated with some of these potential market developments.

2.3 Approach

In light of the recommendations and findings made in the last Minister's Report, and the generally positive response to that report, the Authority considers it appropriate that the third Minister's Report should reflect the categorisation of issues outlined in the last report. That is, the Authority considers that the third Minister's Report be structured such that issues are discussed according to whether they can be characterised as:

- refinements to the market design;
- changes to the market design; or
- broader structural and regulatory settings for the WEM.

To help facilitate the approach in the third Minister's Report, the Authority has structured this Discussion Paper in the same way. While the Authority is aware that a number of stakeholder issues may not fall neatly within these categories, the Authority nevertheless considers that utilising this categorisation could provide useful guidance to stakeholders in the preparation of submissions.

Over time, the Authority hopes that the road map process will become the main forum for canvassing and resolving the second and third categories of issues. However, to the extent these issues impact on the WEM in meeting the Market Objectives, the Authority will continue to highlight key market design, broader structural and regulatory issues as they arise in consultation for the Minister's Report.

Finally, the Authority notes that based on informal consultation to date, fewer stakeholders have raised concerns about fuel supply constraints or gas market issues than was the case last year. For this reason, fuel supply issues have not been raised further in this Discussion Paper. However, the Authority encourages those participants with observations or suggestions regarding fuel issues to put these forward in their submissions. It is also noteworthy that on 29 January 2009 the Western Australian Government announced the establishment of the Gas Supply and Emergency Management Committee. The Committee is tasked with reviewing the security of the State's gas supplies and the management of any future gas supply disruptions. Early in 2009 the Committee sought submissions from interested parties on matters outlined in its Terms of Reference[1] and non-confidential submissions can be viewed on the Office of Energy web site.[2] The Committee is due to report to Government in September 2009.

[1] Office of Energy, *Gas Supply and Emergency Management Committee terms of reference* http://www.energy.wa.gov.au/3/3261/64/role_of_gas_sup.pm

[2] Office of Energy, *Submissions to the Gas Supply and Emergency Management Committee* http://www.energy.wa.gov.au/3/3271/64/submissions.pm

2.4 Process

2.4.1 Consultation

As part of the public consultation process for the Minister's Report, the Secretariat of the Authority invited all key stakeholders to meet and discuss the effectiveness of the WEM. A number of stakeholders took the opportunity to meet with the Secretariat and have provided initial comments. The purpose of this initial consultation was to provide stakeholders with an opportunity to inform the Authority of specific issues they consider are relevant to the Authority's review.

This initial feedback has provided the Authority with an appreciation of the concerns of a range of stakeholders. The issues raised by stakeholders form the basis for this Discussion Paper.

2.4.2 Minister's Report

Following consideration of the matters raised during consultation, the submissions in response to this Discussion Paper, and the analysis of the Market Surveillance Data Catalogue (**MSDC**) and other available data, 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 2009. 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 then 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. It is anticipated the public version of the Minister's Report will be published before the end of 2009.

3 Overview of the Wholesale Electricity Market

This section provides a brief overview of outcomes in the WEM from market commencement to the end of April 2009, and a review of outcomes in both the capacity market and the energy market.

Discussion Point 1

The Authority invites comment on whether the Wholesale Electricity Market Objectives are appropriate and the extent to which the Wholesale Electricity Market is effective in meeting these objectives.

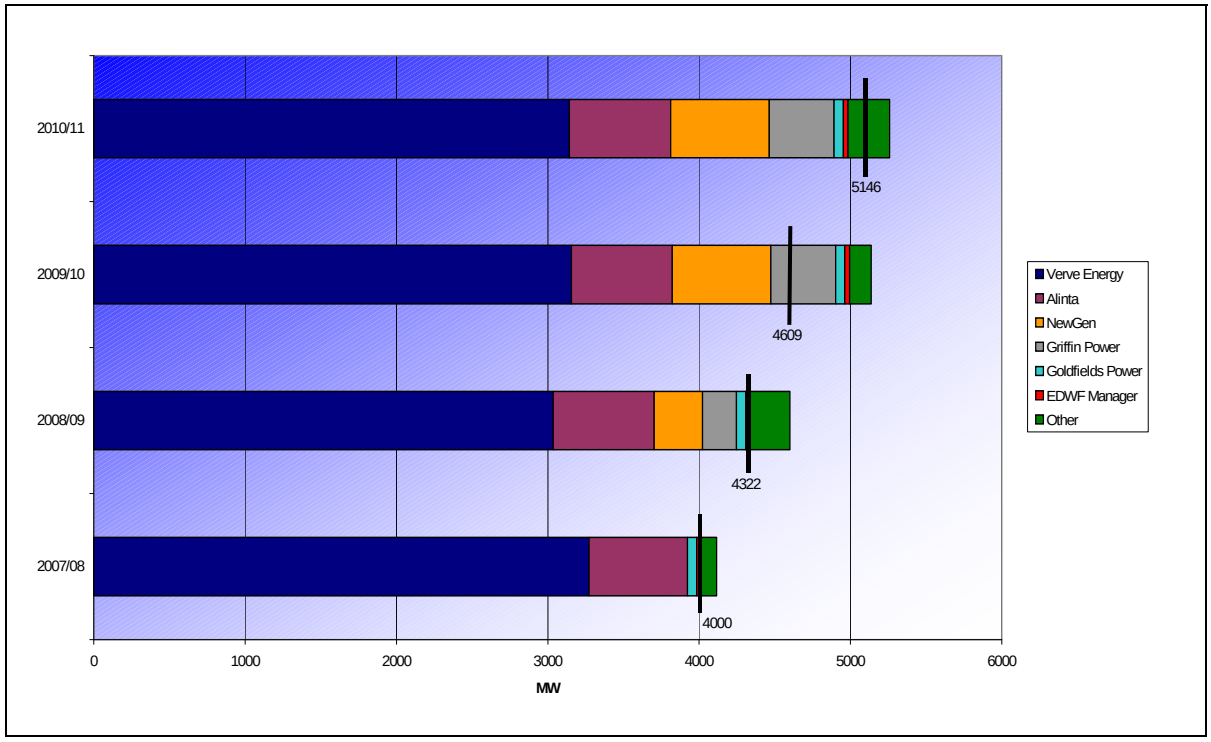
3.1 The Capacity Market

The Reserve Capacity Mechanism (**RCM**) has so far successfully secured sufficient capacity for each Capacity Year. Figure 1 provides a summary of the Capacity Credits assigned to participants for each of the Reserve Capacity Cycles completed so far, as well as the Reserve Capacity Requirement for each year. For each Capacity Year, the number of Capacity Credits assigned to participants has exceeded the Reserve Capacity Requirement.[3] Under the RCM there has been a significant increase in the Capacity Credits assigned to new entrants. The IMO has recently reported on the RCM. As well as noting the positive performance of the RCM to date, the IMO also reported that there appears to be sufficient capacity projected to enter the SWIS to meet projected demand until 2014/15.[4]

[3] In the situation of over-capacity, the cost of the excess capacity is shared across all Market Customers, irrespective of whether they hold bilaterally traded Capacity Credits.

[4] IMO, *Reserve Capacity Mechanism Review Report*, May 2009 http://www.imowa.com.au/Attachments/ReserveCapacity/RCM_ReportV5_PUBLISHED.pdf

Figure 1: Capacity credits assigned



The Reserve Capacity Cycle for 2011/12 is currently underway. In the IMO's 2009 Statement of Opportunities Report[5] the Reserve Capacity Target for 2011/12 is set at 5,191 MW. The IMO estimates that 5,047 MW of existing or committed capacity will be eligible to provide Reserve Capacity in 2011/12. Therefore, an additional 145 MW of new capacity will be required to meet the Reserve Capacity Target in 2011/12.

[5] IMO, *2009 Statement of Opportunities Report*
http://www.imowa.com.au/Attachments/RC_Attachments/2009_SOO_Final_v0.1.pdf

As yet, the IMO has not been required to run a Reserve Capacity Auction to secure additional capacity.

The Reserve Capacity Prices over the period to the 2011/12 Capacity Year are set out in Table 1. While the Maximum Reserve Capacity Price for the 2011/12 Capacity Year has been determined by the IMO and approved by the Authority, the Reserve Capacity Price effective in the market for 2011/12 will not be known until the assignment of Capacity Credits.

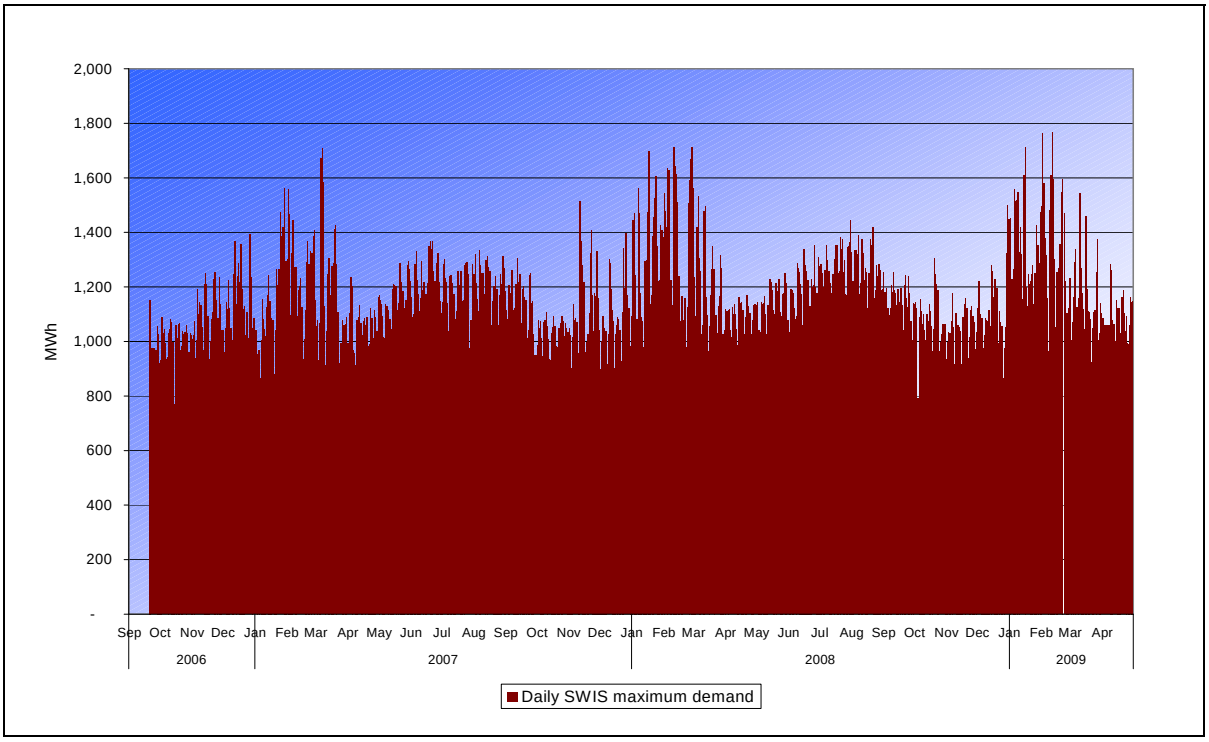
Table 1: Reserve capacity prices

Period	Reserve Capacity Price (per MW per year)	Maximum Reserve Capacity Price (per MW per year)
21/09/06 to 01/10/06	$127,500.00	$150,000
01/10/06 to 01/10/07	$127,500.00	$150,000
01/10/07 to 01/10/08	$127,500.00	$150,000
01/10/08 to 01/10/09	$97,834.92	$122,500
01/10/09 to 01/10/10	$108,458.57	$142,200
01/10/10 to 01/10/11	$144,235.38	$173,400
01/10/11 to 01/10/12	-	$164,100

3.2 The Energy Market

Figure 2 illustrates daily maximum SWIS demand (measured in MWh per trading interval) for each day from market commencement to 30 April 2009. As expected, peak demand days have occurred during January, February and March. There is also a visible increase in daily maximum demand over the winter period in 2007 and 2008, but demand during this period did not reach the same peak levels that it reached during the hot season.

Figure 2: Daily SWIS Maximum Demand



3.2.1 The Short Term Energy Market

Figure 3 and Figure 4 illustrate the average daily peak and off-peak STEM prices for each day from market commencement to 30 April 2009, as well as 30-day, 90-day and annual moving averages of these prices.

As noted in the previous Minister's Report, STEM prices (both peak and off-peak) were relatively high and more variable in the first months of market operation. This outcome was (partly) due to fuel restrictions and low levels of generator availability over this period. Both off-peak and peak STEM prices trended downwards until May 2008. STEM prices increased significantly in June 2008 following the Varanus Island incident, peaking at a daily average of $198/MWh for off-peak periods and $429/MWh for peak periods. Prices have trended down since June-July 2008, although prices remain higher than average prices in 2007 and the first part of 2008.

Figure 3: Average daily off-peak STEM prices[6]

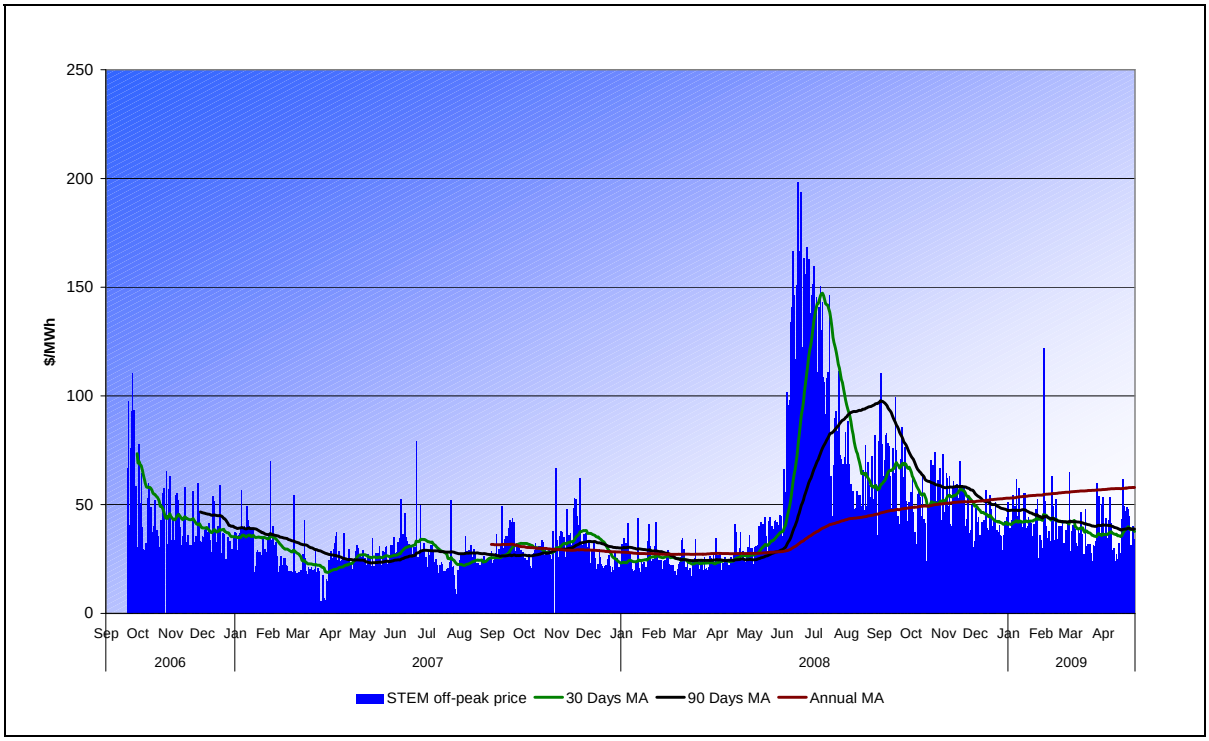
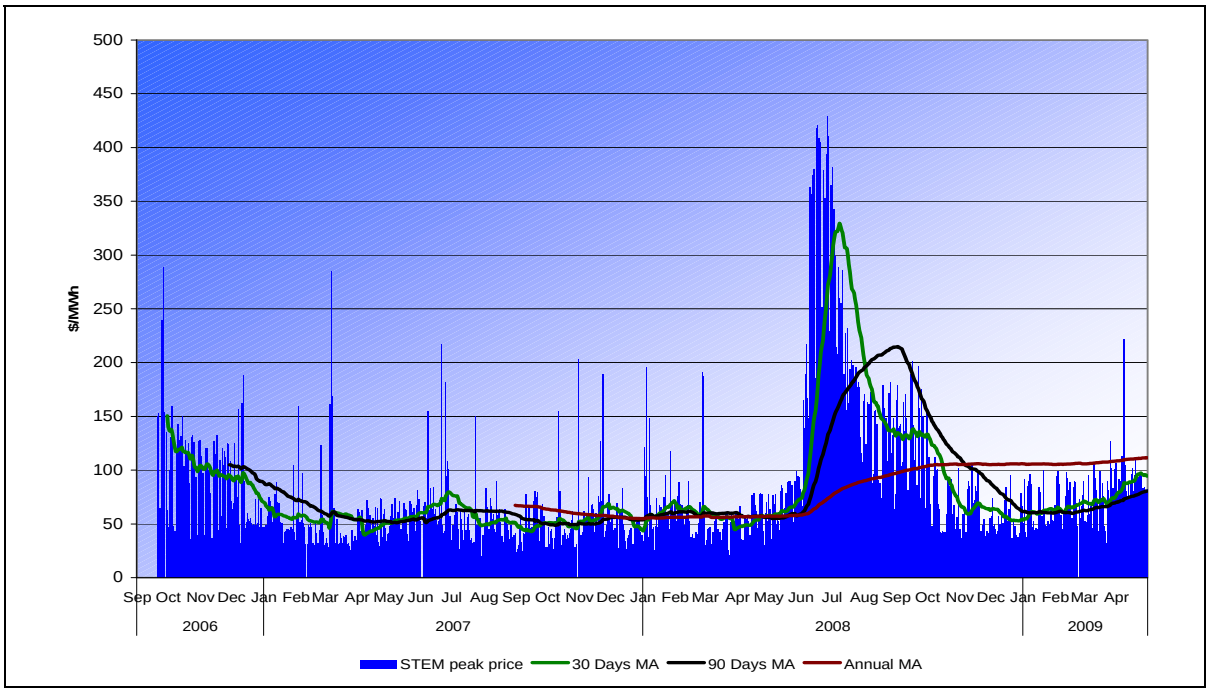


Figure 4: Average daily peak STEM prices

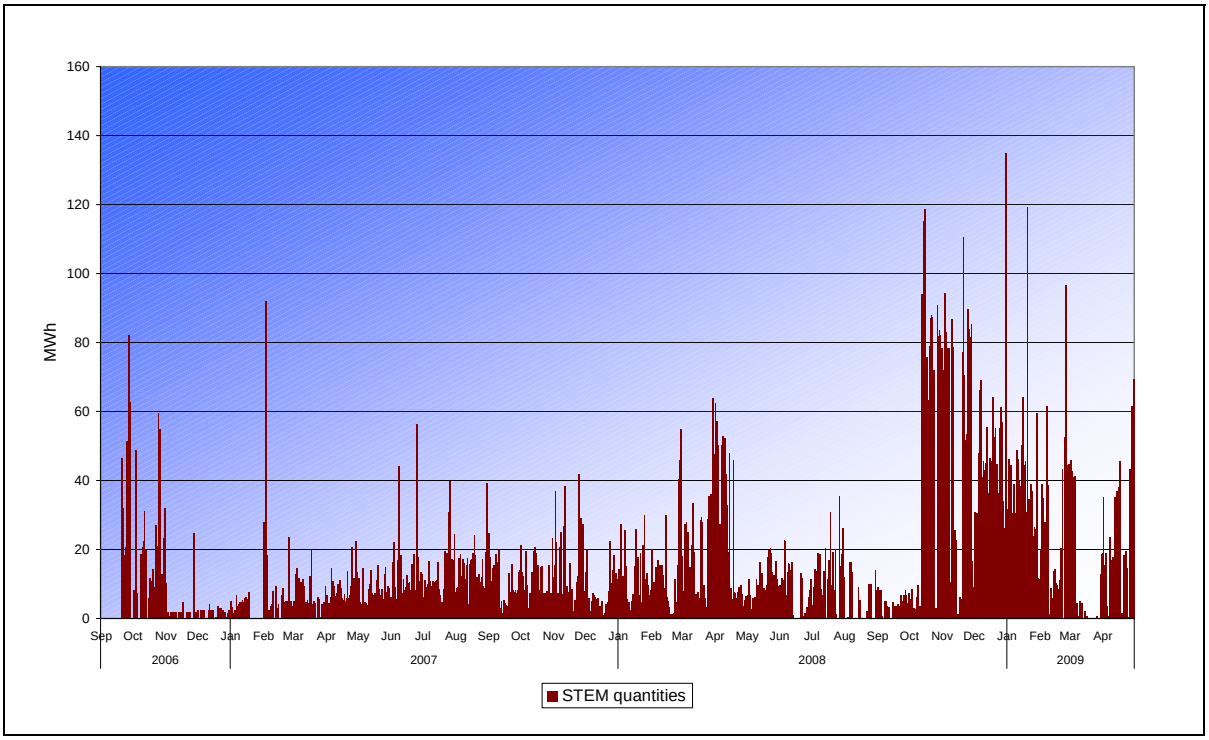


Average volumes of energy traded in the STEM for each day from market commencement to 30 April 2009 are illustrated in Figure 5. STEM volumes were variable in the first months of market operation. Average trading volumes gradually increased in 2007 and 2008, with the exception of June to October 2008, reflecting the Varanus Island incident.

[6] The average prices illustrated in Figure 3 and Figure 4 are simple averages, not volume weighted averages.

Since the commencement of restoring this gas supply, trading volumes have again increased, peaking during the spring and summer of 2008/09. On the last day of 2008, the average STEM traded quantity reached a record of 135 MWh.

Figure 5: STEM traded quantities (daily average MWh per trading interval)



Quantities traded in the STEM are principally accounted for by Verve Energy, Synergy and Alinta, although since September 2008 NewGen and Griffin Energy have been trading significant quantities in the STEM. Figure 6 illustrates weekly average quantities bought in the STEM by Market Participants. The figure shows that Verve Energy and Synergy have historically accounted for the majority of volumes bought in the STEM, with NewGen accounting for the majority of volumes bought between December 2008 and March 2009.

Figure 6: Quantities bought in the STEM (weekly average MWh per trading interval)

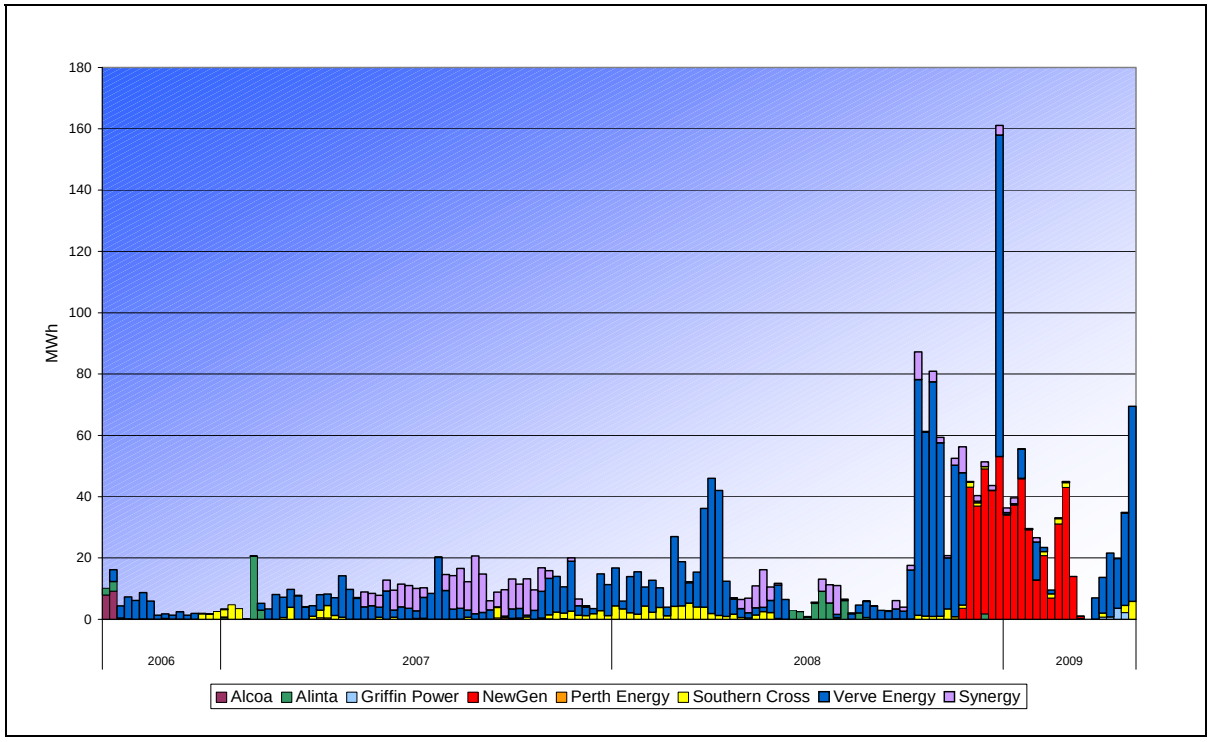
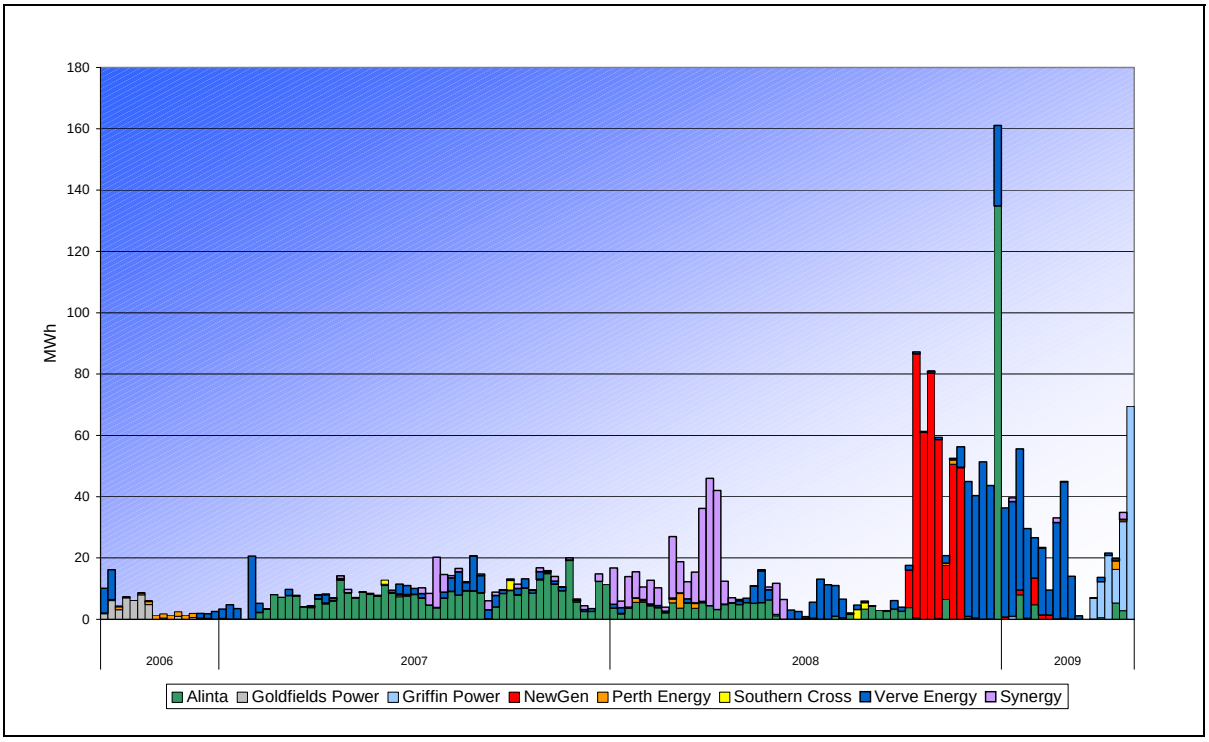


Figure 7 illustrates weekly average quantities sold in the STEM by Market Participants. Synergy and Alinta accounted for the majority of volumes sold in the STEM up until winter 2008. NewGen accounted for the majority of volumes sold in October and November 2008 and Griffin Energy accounted for the majority of volume sold in April 2009.

Figure 7: Quantities sold in the STEM (weekly average MWh per trading interval)



3.2.2 Balancing

Figure 8 and Figure 9 illustrate, respectively, the average daily peak and off-peak Marginal Cost Administrative Prices[7] (**MCAP**) for each day from market commencement to 30 April 2009, as well as 30-day, 90-day and annual moving averages of these prices.

The MCAPs have broadly followed a similar pattern to STEM prices. That is, both peak and off-peak MCAPs were relatively high and variable during the first months following market commencement. Then both off-peak and peak MCAPs trended downwards to stabilise from mid-2007. With the Varanus Island incident, both peak and off-peak MCAPs increased significantly in June 2008, but have subsequently slowly returned to lower levels.

Comparing the MCAPs to STEM prices, it is clear that the MCAPs are more variable than STEM prices. Both peak and off-peak MCAPs spike more frequently than STEM prices and have relatively higher spikes reflected in greater variability for the MCAP 30-day moving averages, relative to STEM prices.

[7] MCAP is used to settle the purchases and sales of energy in the balancing market. For each Trading Interval the MCAP differs from the STEM price in that it reflects the actual system load, any load curtailments and deviations from Independent Power Producers' planned production.

Figure 8: Average daily off-peak MCAPs[8]

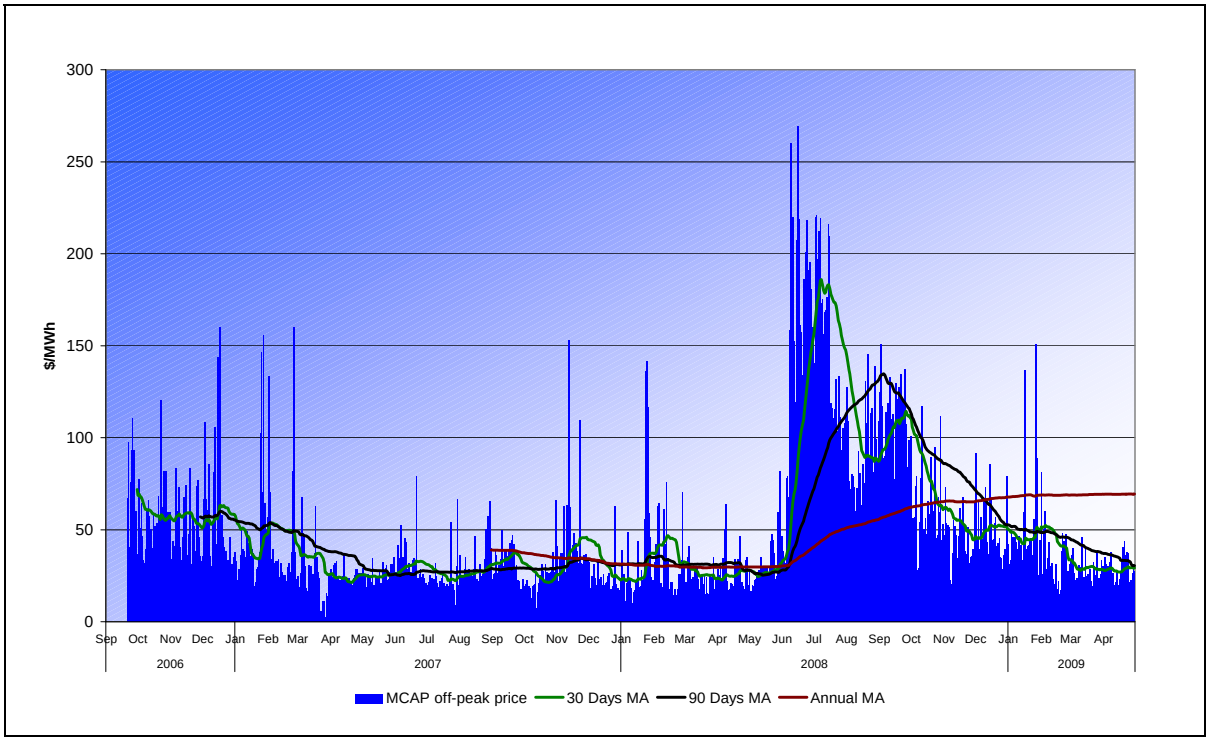
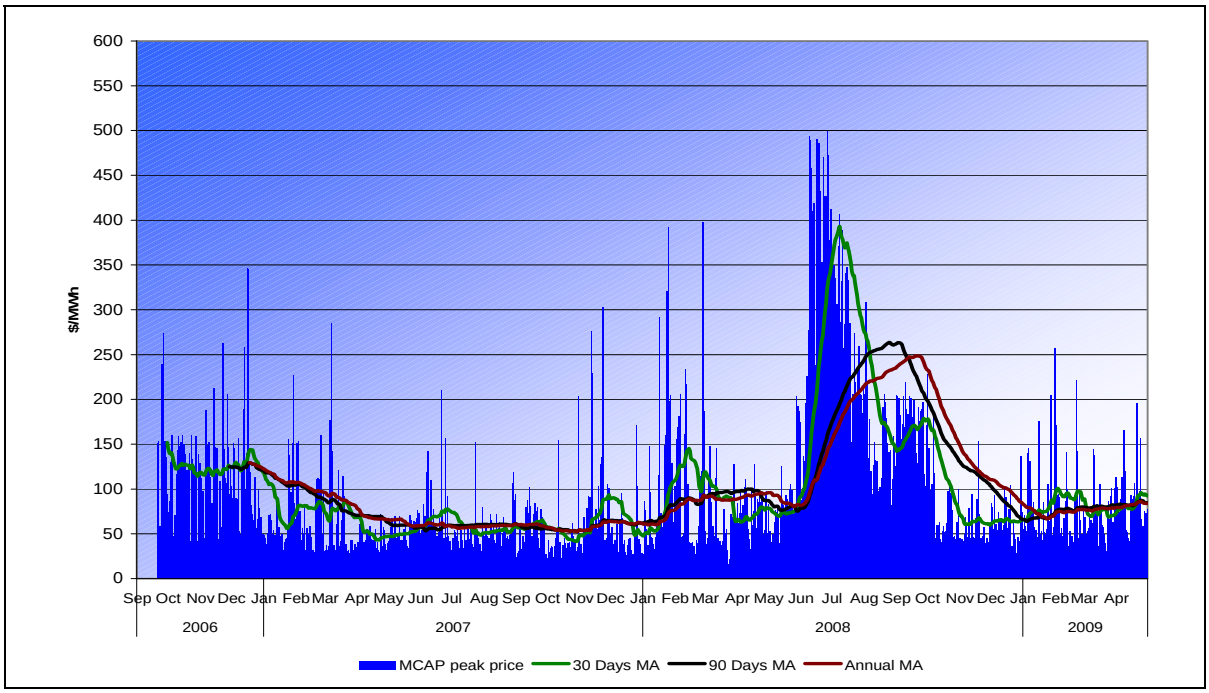


Figure 9: Average daily peak MCAPs

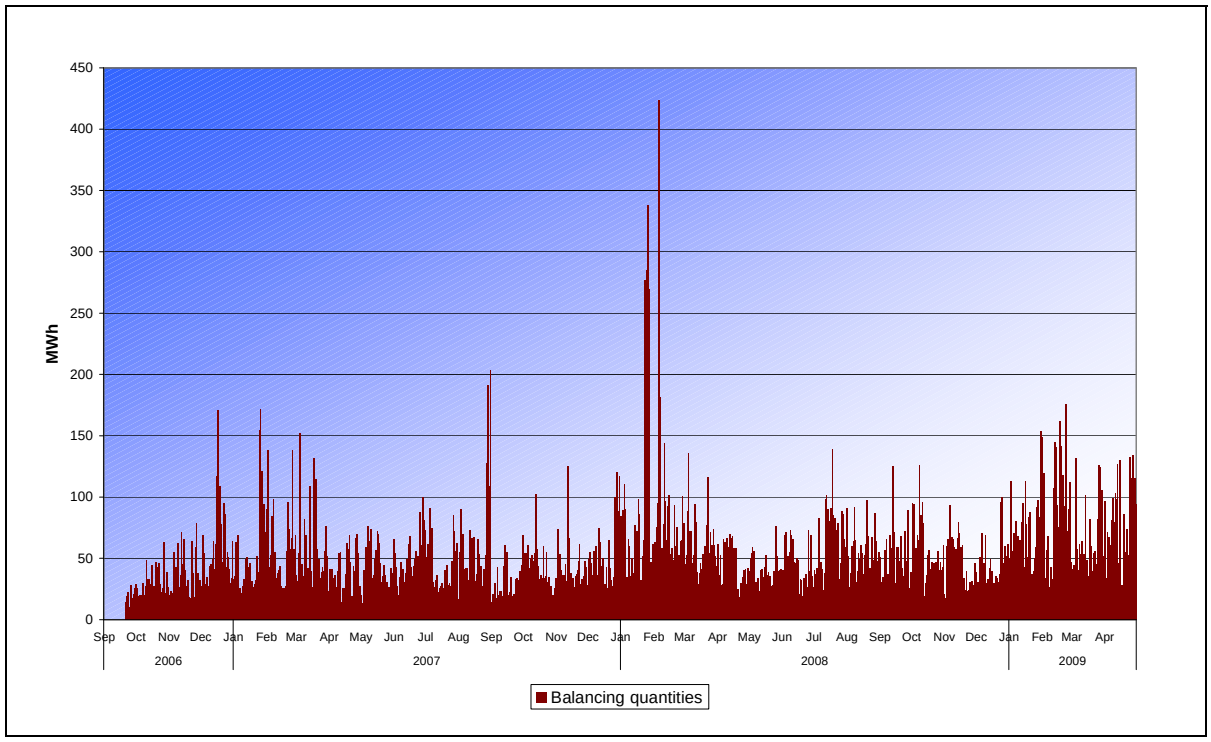


Average daily balancing quantities measured in megawatt hours since market commencement to 30 April 2009 are illustrated in Figure 10. Comparing Figure 5 to Figure 10 shows that balancing volumes are generally greater than STEM volumes. During February 2008, balancing volumes spiked at a daily average of 423.6 MWh per

[8] The average prices illustrated in Figure 8 and 9 are simple averages, not volume weighted averages.

trading interval, but have been relatively stable since then. Similar to the SWIS daily maximum demand, balancing volumes tend to be higher during the hot season.

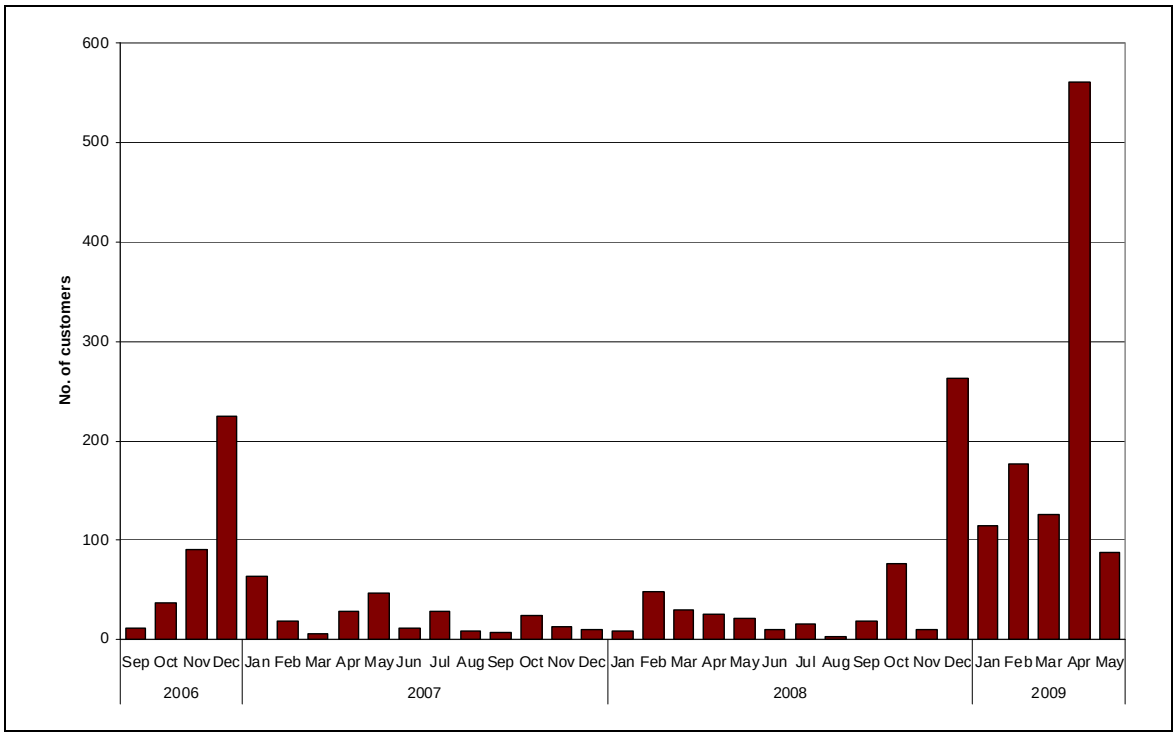
Figure 10: Balancing quantities (daily average MWh per trading interval)



3.3 Retail Market

The electricity market in Western Australia has been progressively opened to retail competition since 1997. Since January 2005, all customers with annual consumption in excess of 50 MWh have been contestable. Currently, there are approximately 15,000 retail customers in Western Australia that are contestable,[9] compared to a total market of approximately 1 million retail customers.[10] Figure 11 illustrates the rate at which customers have switched or 'churned' between retailers since market commencement. As can be seen in Figure 11, levels of customer churn spiked in the first months following market commencement, with over 200 customers churning in December 2006. Following that, churn rates moderated and remained relatively low throughout 2007 and 2008. More recently, churn rates have increased significantly, reaching a peak of 561 customers in April 2009. This increase in churn may reflect the Government's announcement of increases in tariffs to take affect during 2009.

Figure 11: Customer churn[11]



[9] ERA, *2007/08 Annual Performance Report – Electricity Retailers*, March 2009 http://www.era.wa.gov.au/cproot/7403/2/20090317%202007-08%20Annual%20Performance%20Report%20-%20Electricity%20Retailers.pdf

[10] ERA, *2006/07 Annual Performance Report – Electricity Retailers*, January 2008 http://www.era.wa.gov.au/cproot/6311/2/2007%20Annual%20Report%20-%20Electricity%20Retailer%20Performance%20Final.pdf

[11] Customer churn is measured by the number of National Meter Identifiers (NMIs) transferred between retailers.

4 Refinements to the Existing Wholesale Electricity Market Design

As noted in section 2.3 above, the categorisation of issues in this Discussion Paper is based on the approach adopted in the previous Minister's Report. This section discusses issues characterised as refinements to the WEM design and invites comment on those issues as well as other similar refinements. Sections 5 and 6 discuss issues relating to more fundamental changes to the WEM design and broader structural and regulatory settings, respectively.

4.1 Network Connection Applications, Access Rights and Capital Contributions for Shared Network Assets

As was the case in the second Minister's Report, a number of stakeholders have raised concerns regarding access to the transmission network.

Western Power Networks is cognisant of delays surrounding the access application process and concerns regarding capital contributions for shared network assets. It is broadly acknowledged that these problems can be seen as resulting from the interaction between the RCM, the *Electricity Networks Access Code 2004* (**Access Code**) and the physical nature of network augmentation.

In a totally regulated market environment, transmission and generation can be planned together, or, co-optimised. The network planning side involves substantive engineering studies to identify the augmentations required to cope with credible contingencies. The interactions between generation plant outputs, network flows and network transfer capability are such that the need for, and the extent and cost of, any given augmentation is dependent on the pre-existing configuration of the network. Likewise, the planning studies for each augmentation are dependent on completing the previous augmentation studies. As a result, the time required to augment the network may be longer than the timeframe for planning and commissioning a power station, for example a coal-fired generator.

In deregulated markets, the opportunities for transmission and generation planning to be co-optimised are more limited due to the reliance on market signals to drive investment decisions. Coordinating transmission and generation planning is an ongoing challenge for electricity markets around the world, particularly in regards to having generation plant locate in the right place at the optimal time. A clearer understanding of the interactions between network and generation development will facilitate the evolution of better arrangements. A key issue to consider is whether the RCM cycle should be synchronised with those generation technologies that have the longest planning horizon.

4.1.1 Network Connection Applications

The Market Rules require that an application for certification of Reserve Capacity for a facility that has not yet entered service includes an access offer from Western Power that shows that the facility is entitled to network access. Some stakeholders have raised concerns about the time taken to receive a network access offer from Western Power and suggested that delays in receiving a network access offer can delay participation in the

RCM and thereby lead to delays in generation investment more generally. This outcome would ultimately impact on the extent to which the WEM continued to achieve the Wholesale Market Objectives.

One reason put forward by stakeholders for delays in assessment of access applications was the apparent lack of resources devoted to this activity by Western Power. Some stakeholders questioned the adequacy of Western Power's incentives under the Rules to retain and deploy the required resources for this important work.

A number of stakeholders noted that a key reason for delays in receiving network access offers was the length of the queues operated by Western Power for assessing network access applications.[12] Stakeholders pointed out that there was no cost to joining these queues by making a network access application, and that parties making network access applications had few incentives to consider the delays their applications caused to the assessment of other applications. Further, Western Power had no basis to discriminate between applications – in other words, the access application process is sequential. Settling a prior access application is a requirement for the processing of the next access application, as the augmentation required (in the assessment of later applications) is dependent on what will then be the 'existing' network. Thus a more recent generator access application may be held up by an earlier access application.

To help overcome delays caused by application queues, some stakeholders suggested that parties wishing to make a network access application ought to be required to lodge a sizeable bond or deposit with Western Power as evidence of the seriousness of their planned investment. Other stakeholders suggested that Western Power should discriminate between applications on the basis of the 'commerciality' of the application, where this could be assessed by reference to the criteria used by the IMO to allocate Reserve Capacity Credits. At the same time, stakeholders also voiced concerns over the perceived scope for network access applicants to 'queue jump' in certain cases. More generally, stakeholders complained of a lack of transparency surrounding the treatment of connection applications within Western Power's queuing process.

In the Australian Energy Market Commission (**AEMC**) *Review of Energy Market Frameworks in light of Climate Change Policies*, a consultant (EMCa) delivered a report for the AEMC which focused on issues arising in the Western Australian energy market (**EMCa report**).[13] The Authority notes that the EMCa report suggested a range of potential solutions to the delays in application assessments. These include the devotion of additional resources by Western Power to the assessment process, improving the availability of market information and a number of modifications to Western Power's queuing policy including:

- geographically desegregating the queuing process;
- requiring a high-level feasibility study to be undertaken before an application can progress beyond a certain point in the queue; and
- greater cost-reflectivity of access application charges (to reflect the expected costs of required system studies) and the charging of annual administration fees to deter potential applicants with marginally committed projects from entering the queue.[14]

[12] Western Power, *Queuing Rules: frequently asked questions* http://www.westernpower.com.au/documents/infoPacks/queingRulesFAQ.pdf

[13] EMCa report, *Review of WA Energy Market Framework in Light of Climate Change Policies, Advice of Network Issues Identified in AEMC's First Interim Report*, 22 June 2009.

[14] EMCa report, op. cit, pages 20-23, page 30.

Western Power has suggested it would prefer a mechanism for prioritising applications based on applicants' readiness to enter a connection agreement, in place of the current 'first come, first served' process. Western Power also commented that it is currently modifying its queuing process by publishing more information about the status of applications in the queue.

Discussion Point 2

The Authority invites comment on the extent to which the risk that a network connection application will not be offered on time impacts on investment incentives, including incentives to invest in new facilities in particular geographic locations of the network.

Discussion Point 3

The Authority invites comment on network connection applications. In particular:

- **to what extent would it be appropriate for Western Power to require that a sizeable bond be lodged with an application for network access;**
- **to what extent would it be appropriate for Western Power to discriminate between connection applicants (other than based on their places in the sequence of the relevant queue); and**
- **if other means of discrimination between connection applicants are appropriate, taking into consideration Western Power's queuing guide, what should be the basis for such discrimination.**

4.1.2 Network Access Rights

Several stakeholders expressed concern that a Market Participant was able to retain access to network capacity when the Market Participant was not using that capacity. One stakeholder considered that this situation was inconsistent with the transmission access regime in the WEM, which does not embody firm physical transmission rights. Another stakeholder raised the question of whether unused network capacity is, or should be, tradeable – with the key point being that the acquisition of network access for a new generator on negotiated terms might be preferable to having to fund new network capacity to accommodate a new generator as a matter of course, that is, a generator should be able to negotiate for access to the unused capacity.

In last year's Minister's Report, the Authority noted that it had previously rejected a 'use it or lose it' resumptive rights policy for unused network capacity - particularly to the extent that this involved giving Western Power, as a regulated monopoly business, the power to unilaterally withdraw or reduce a network user's rights to contracted capacity if the capacity is unused. As a part of Western Power's proposed revisions to its access arrangement for the South West Interconnected Network, it has again proposed that the electricity transfer access contract be amended to provide for Western Power to unilaterally decide whether to reduce a user's contracted capacity in circumstances where part or all of the contracted capacity is not being used, and the user has not demonstrated that the unused capacity will be used. In submissions received by the Authority in response to Western Power's proposed access arrangement revisions, some

stakeholders supported the electricity transfer access contract including provision for contracted capacity of a user that is unused to be re-allocated, however, no stakeholders supported such re-allocation being undertaken by a unilateral decision of Western Power.

The Authority will address this matter in its review of Western Power's proposed access arrangement revisions. The Authority will shortly publish its Draft Decision on Western Power's proposed access arrangement revisions, including the approach to unutilised contracted network capacity. Stakeholders will then have a further opportunity to make submissions to the Authority prior to the release of the Final Decision.

4.1.3 Capital Contributions for Shared Network Assets

Other issues raised in the Authority's informal consultation process were whether or how capital contributions for shared network assets should apply in the WEM.

Stakeholders noted that capital contributions for shared network assets that may apply for new connecting generators could be dependent on the order in which their network access applications are dealt with by Western Power. For example, participants who sought to connect at times and in locations where spare shared network capacity existed, they paid lower charges than parties who sought to connect at times and locations where shared network utilisation was higher. The charging of capital contributions for shared network assets could then impact on the participants' incentive to connect to the grid at a particular location and time.

One stakeholder suggested Western Power could apply the New Facilities Investment Test (**NFIT**) to any network augmentations or extensions resulting from a network connection application. Connecting parties would then only be required to contribute to network investment that did not satisfy the NFIT. The same stakeholder submitted that although Western Power tended to apply the NFIT to load-driven network investment, it did not typically apply the NFIT to new generation-driven network investment.

Western Power has confirmed for the Authority that it does apply the NFIT to generation-driven transmission investments. However, Western Power also noted that the application of the NFIT for generation projects remains somewhat uncertain, as the NFIT provisions themselves lack clarity and posited that it is difficult to determine a net benefit in the case of new generation when there is no transparency of generation costs or prices. Western Power also noted that the Access Code encourages a service provider to adopt a conservative approach because of the ex-post nature of the NFIT review by the Authority.

It should be noted that, under the Access Code, Western Power is required to assess any investment against the requirements of the NFIT before determining the value of any contribution in respect of that investment, regardless of whether that investment is driven by new load or connection of generation. Where the investment is to enhance the capacity of the shared network, (that is, involving shared network assets as opposed to a user-specific asset) the relevant issue is that Western Power should apply the test with due recognition to all net benefits that may arise from the augmentation of the shared network. These benefits may be wide ranging and could include, for example, greater reliability of the network and competition benefits in the WEM. It should also be noted that the NFIT makes provision for incremental revenue and net benefits to be taken into account when determining whether the new facilities investment should be rolled into the capital base. Where the new facilities investment is rolled into the capital base all network users will be required to pay for the recovery of the investment over its economic life through network tariffs.

Discussion Point 4

The Authority invites comment on the application of capital contributions for shared network assets charged by Western Power.

4.2 Decommitment of Thermal Plant

An issue of concern to some stakeholders is the emerging need for System Management to decommit (switch off) or 'cycle'[15] thermal base load plants at certain times, especially overnight, due to a combination of increasing amounts of must-run thermal generation plant (such as cogeneration) and comparatively low off-peak and 'trough' period demand.

This combination of factors is leading to thermal generation plants, and in particular, Verve Energy plants, being cycled on a regular basis. System Management has expressed two key concerns about this outcome, namely:

- physical/system security issues – if cycled plants cannot return to service the next day in time to meet peak loads; and
- economic inefficiency – due to the need to meet demand using liquid-fuelled plants (rather than lower variable cost coal or gas plants), as well as the implications for a shorter plant life for cycled base load plants.

A key issue in this context is the extent to which both the owners of must-run plant and Verve Energy face appropriate signals in the market regarding the economic efficiency implications of decommitment.

Discussion Point 5

The Authority invites comment on the decommitment of thermal plant. In particular:

- **to what extent is the overnight decommitment of thermal plants consistent with the Market Objectives; and**
- **given that System Management will be guided by the Dispatch Merit Order and by system reliability considerations, to what extent is System Management's approach for decommitting plant overnight appropriate, transparent and predictable.**

[15] Cycling operations can include start-up/shutdown operations.

4.3 Penetration of Intermittent Generation

The Authority notes that, while the treatment of wind power in the WEM raised considerable comment in the consultation for the 2008 Minister's Report, there was less comment within the consultation undertaken prior to this Discussion Paper. This may be due to stakeholders' expectations that these issues will be satisfactorily addressed by the work of the Renewable Energy Generation Working Group (**REWG**).

Formed under the IMO's Market Advisory Committee (**MAC**), the REWG's scope is to consider and assess system and market issues arising from the increase in the national Mandatory Renewable Energy Target (**MRET**) to 45,000 GWh by 2020. In particular, the REWG is required to focus on a number of priority issues related to intermittent renewable energy generation, including: Capacity Credits allocated to intermittent generators through the RCM; the impact on demand for ancillary services; and system security at times of low load.

The Authority notes that Sinclair Knight Merz (**SKM**) was commissioned by the IMO[16] to develop a scope of works (a work program) to review the impacts and challenges associated with the increasing levels of intermittent generation penetration into the SWIS.

When completed the work program is expected to identify satisfactory solutions to the challenges with the primary driver being the more effective achievement of the market objectives, including the economically efficient, safe and reliable production and supply of electricity.

On 3 May 2009, SKM proposed four work packages in its *Scoping Document to assess the impacts of Intermittent Generation.*[17] These are outlined in more detail below:

- Work Package 1 – Impacts Resulting from State and National Policy. This focuses on the impacts of the Carbon Pollution Reduction Scheme (**CPRS**) and the expanded Renewable Energy Target and considers the impediments to renewable generation in the SWIS and the implications for network planning and development.
- Work Package 2 – Service Type Capacity and Reliability Impacts. This focuses on the need to clearly define the nature of the type of capacity services required in the SWIS to enable efficient and non-discriminatory procurement. This Work Package also involves considering the appropriate allocation of costs for additional reserve required to accommodate intermittent plant in the SWIS.
- Work Package 3 – Frequency Control Services. This deals with determining the provision, type and amount of frequency control services required to facilitate the secure and reliable operation of the SWIS by the system operator. This Work Program also deals with the issues caused by low overnight load in the SWIS combining with increasing penetration of intermittent plant to lead to the need for overnight curtailment of certain plant.
- Work Package 4 – Technical Rules. This involves considering the appropriate mitigation measures to ensure network stability in light of increasing intermittent generation.

[16] The scope of works was funded by the Office of Energy.

[17] IMO, Sinclair Knight Merz paper: *Impacts of Intermittent Generation, Scoping Document to Assess the Impacts of Intermittent Generation, Final*, 3 May 2009 http://www.imowa.com.au/Attachments/RuleChange/SKM_ScopeOfWorkImpactsOf_IntermittentGeneration.pdf

The IMO has identified the expected project funding cost for this work in its budget submitted as part of its Operational Plan. If approved by the Minister for Energy, the IMO will commence the work packages.

Discussion Point 6

The Authority invites comment on issues surrounding the penetration of intermittent generation in the Wholesale Electricity Market. In particular, what approach is required to balance system security and avoid discrimination against any generation technology.

4.4 Transparency of Outages

Some stakeholders supported the provision of more detailed (advance) information about planned outages to enable them to make better operational decisions, while others emphasised the need for greater transparency regarding the nature of outages (planned and forced) after the fact.

According to some stakeholders, more detailed planning outage information and greater outage transparency could promote improved efficiency in the market as follows:

- greater details provided in the Projected Assessment of System Adequacy (**PASA**)[18] could assist market generators plan their outages in a complementary manner; and
- greater visibility regarding outages could result in improved transparency and liquidity in the STEM. It is noteworthy that the IMO must make the schedule of planned outages (SWIS Restricted Information[19]) available from the market web site.[20]

The Authority notes that in the WEM, generator outages are projected by System Management via its short-term and medium-term PASA studies. The short-term PASA covers the next three weeks (in 6-hourly periods) and the medium-term PASA covers the next three years (in weekly periods). Currently, information is derived from the outage planning process, which is provided to System Management on a continuous basis.

The primary purpose of publication of the short term and medium term PASA is to provide a forecast of system adequacy. Currently, short term and medium term PASA are based on accepted, rather than approved, outages and therefore are changeable prior to actual approved outages. Also, outage information in the short term and medium term PASA is reported at a system level, not at a participant level.

In considering whether there is a need for more information and transparency surrounding outages, the Authority notes that this is an issue that has and is being considered by the

[18] See IMO, *Wholesale Electricity Market Design Summary*, September 2006, pp 23 – 26, http://www.imowa.com.au/Attachments/MarketSummarySeptember2006.pdf for a discussion on Medium and Short Term Planning, inclusive of an explanation in respect of ST PASA and MT PASA.

[19] SWIS Restricted, in which case the relevant information or documents may only be made available to: Rule Participants; the MAC; the IMO; the Energy Review Board; the Authority; and other Regulatory or Government agencies in accord with applicable laws.

[20] 'Market web site' has the meaning given in the *Electricity Industry (Wholesale Electricity Market) Regulations 2004*, which is an internet web site maintained by the IMO for the purpose of publishing and releasing information to participants.

market. To date, the Market Rules have not provided for outage information to be disseminated outside System Management at all. However, following a round of informal consultation by the IMO, System Management proposed Rule change RC_2009_05 *Confidentiality of Accepted Outages*.[21] This Rule change proposes that accepted information on outages be made available only to the networks business for the purposes of coordinating network and generation outages. The IMO's recent Draft Report approved this Rule change and the second submission period remains open until 17 July 2009. Therefore, from the Authority's perspective, the question for stakeholders is whether the Rule change process has appropriately considered the merits or otherwise of wider dissemination of outage information.

Discussion Point 7

The Authority invites comment on the adequacy of plant outage information in light of:

- **the potential benefits and costs of wider dissemination of outage information; and**
- **the IMO's analysis of outage information dissemination in relation to the proposed Rule change RC_2009_05 *Confidentiality of Accepted Outages*.**

4.5 Ancillary Services Procurement

In 2007/08, the provision of ancillary services cost approximately $16 million[22], this is in comparison to the 2008 Reserve Capacity Credit value of approximately $74 million[23], and an estimated total energy market value for the 2007/08 financial year of $960 million[24].

In last year's Minister's Report, the Authority raised concerns regarding System Management's progress in putting together a procurement strategy for ancillary services. However, in preliminary consultation for this Discussion Paper, System Management indicated that it has made significant progress in ancillary service procurement.

System Management is in the process of procuring System Restart services. Rule change RC_2008_38 *Least cost determination of ancillary service contracts*, promoted by System Management, has also come into effect since 1 June 2009. This Rule change addresses an ambiguity in the Market Rules regarding the requirement for 'least cost' ancillary services procurement. System Management considers this Rule change was necessary for it to procure load following and spinning reserve from non-Verve Energy participants, in accordance with the requirement of the Market Rules.

[21] IMO, *Rule Change Proposal RC_2009_05 Confidentiality of Accepted Outages* http://www.imowa.com.au/Attachments/RuleChange/RC_2009_05%20Rule%20Change%20Proposal.pdf

[22] IMO, *Ancillary Service Report 2008 prepared under clause 3.11.11 of the Market Rules by System Management* http://www.imowa.com.au/Attachments/AncillaryServicesReport2008.PDF

[23] IMO, *2008 Capacity Credits assigned by the IMO* http://www.imowa.com.au/Attachments/RC_Attachments/SummaryofCapacityCreditsfor2008ReserveCapacityCycle.pdf

[24] Based on the Authority's approximations of sent-out energy of 16,000 GWh at $60/MWh for the 2007/08 financial year. Please note, these figures are approximated only.

Relevant to ancillary service procurement, a stakeholder raised a concern that compensation for ancillary services, which is determined from MCAP, is considered inadequate to cover the costs of providing such services. However, the Authority is not aware of any evidence to substantiate this claim. The stakeholder also raised the concern that this problem is accentuated when providing load following and spinning reserve ancillary services at times when MCAP becomes negative. The Authority notes that, as at 31 May 2009, MCAP has only been negative in 31 half-hourly trading intervals since market commencement and that negative prices do not necessarily mean that the outcome is inefficient from a market perspective.

Discussion Point 8

The Authority invites comment on what factors may inhibit a generator from participating in the competitive procurement of ancillary services.

4.6 Location Signals to New Generation

One stakeholder raised a specific issue on the lack of recognition given to new generators about the effects of their location decisions on the need for Network Control Services. It was submitted that in other jurisdictions, generators are paid for Network Control Services, but this is not the case in the WEM. The implication of this difference in market design is that generators may not, at the margin, face appropriate incentives to locate optimally in the WEM.

The Authority notes that the Market Rules prescribe a process for the procurement of Network Control Services where a generation/demand side management solution is expected to be a more economic solution than a network augmentation. The Authority is also aware that before committing to a major augmentation[25] of the network, a service provider must undertake a regulatory test to ensure that a proposed network augmentation maximises the net benefit to those who generate, transport and consume electricity.

The location decisions of new generators can require significant augmentation of the shared network. This is typically reflected in the capital contribution paid by the connecting generator, which is a form of location price signal. The transparency of network connection opportunities on the network would lead to the more efficient location of new generators and could provide system wide efficiency benefits. This would appear to be a matter for the access regime rather than the Market Rules.

Discussion Point 9

The Authority invites comment on any concerns in respect of the provisions of location signals to new generation and how these concerns may be addressed within the context of the Market Rules.

[25] Major Augmentation means an augmentation for which the new facilities investment for the shared assets: (a) exceeds $10 million (CPI adjusted), where the network assets comprising the augmentation are, or are to be, part of a distribution system; and (b) exceeds $30 million (CPI adjusted), where the network assets comprising the augmentation are, or are to be, part of: (i) a transmission system; or (ii) both a distribution system and a transmission system.

4.7 Metering

Stakeholders raised two issues in relation to the accuracy and timing of metering.

One stakeholder claimed that Western Australia is the only jurisdiction in Australia where significant generators are not subject to half-hourly revenue-quality metering. Currently, System Management's Supervisory Control and Data Acquisition (**SCADA**) data is used for settlement purposes in the WEM for these generators, which are all Verve Energy plant. SCADA data is not as accurate as revenue-quality metering data due to it being used for operational purposes only. These generators were not fitted with revenue-quality meters as metering accuracy was less critical prior to the introduction of the electricity market in Western Australia.

The Authority notes that the use of SCADA data for Verve Energy generation will impact all Market Participants in the context of the allocation of common costs, such as market fees. The use of SCADA data also influences the settlement of energy payments between Verve Energy and Synergy as the Verve Energy SCADA data value is used to determine energy sales from Verve Energy to Synergy.

A number of stakeholders have expressed a related concern about the significant delays to settlements in the market. It is noteworthy that settlement of the STEM occurs on a weekly basis, while other transactions are settled monthly. It may take up to 30 days after the end of a month to receive all interval meter data for a month, so settlement for a trading day at the start of a month will not occur until about 70 days after that trading day (first round of settlement). Settlement adjustments will be made at three-month intervals (or more frequently) for up to a year, allowing for resolution of disagreements and improved meter data.

It was suggested that the availability of more timely revenue-quality metering data from large customers who do not have telemetry metering could reduce time lags in settlement of some market transactions, and thereby reduce prudential requirements in Chapter 2 of the Market Rules (clauses 2.37-2.43). The expected lower working capital requirements in turn may reduce a potential barrier to market entry for some market proponents.

Discussion Point 10

The Authority invites comment on the key benefits and costs of installing revenue-quality meters at Verve Energy's plants in place of relying on System Management's Supervisory Control and Data Acquisition (SCADA) data.

The Authority also invites comment on the key benefits and costs of using estimated meter readings for the first round of settlement instead of waiting for all interval meters to be read by the metering data agent.

4.8 Competitive Balancing

Under the Market Rules, apart from Verve Energy, Market Participants with registered generators or dispatchable loads are required to provide day-ahead Resource Plans to the IMO that cover their net contract position. These Resource Plans include the output of each generator and dispatchable load in each Trading Interval and, in addition, the Market Participant's own load to be supplied from those facilities such that the net energy

supplied matches the net contract position. Market Participants submitting Resource Plans must also specify pay-as-bid balancing prices to be used as the basis for compensation if they are required by System Management to deviate from their Resource Plans.

After receiving the Resource Plans from the IMO (as submitted by Market Participants), System Management schedules Verve Energy resources to 'balance' the system around the Resource Plans, and, through the hours leading up to real time, System Management will reschedule Verve Energy resources to balance the system as necessary. If required, System Management will issue instructions to Market Participants so as to ensure supply matches demand. For example, System Management may issue dispatch instructions to an IPP and to curtailable or dispatchable loads if it cannot otherwise maintain security and reliability, or if it would have to use Verve Energy liquid fuelled plant when non-liquid fuel capacity was still available.

In order to facilitate competitive balancing, a stakeholder suggested that operational regime changes would be required ahead of its introduction in the following areas:

- System Management's dispatch of Verve Energy units;
- outage reporting by participant and unit; and
- reporting of actual versus planned fuel use.

These regime changes suggest that Verve Energy would be required to provide the equivalent of a Market Participants' day-ahead Resource Plan.

Stakeholders also raised the issue that under the current operational regime, it is difficult to understand whether changes in Verve Energy's output are driven by its balancing role or by other reasons.

The Authority notes that the Market Rules make provision for a Power System Operating Procedure which governs System Management's dispatch of Verve Energy units.

At the MAC meeting held on 10 June 2009, members considered the IMO's paper *Market Rules Evolution Plan update*.[26] The paper identified a number of areas of the Market Rules that are candidates for further work as suggested by Market Participants, one of which was the item 'Improved Balancing Mechanism'.

Under this item, the IMO posited that the market design does not provide balancing mechanisms that handle unexpected events between the clearing of the STEM and real time, and this appears to create a number of issues which impact on both Verve Energy and other Market Participants, including:

- under the day-ahead mechanism, balancing prices do not always reflect the final dispatch and this impacts on the balancing generator – Verve Energy – during the one day lag;
- in addition, IPPs do not have the flexibility to move generation between their own units or purchase from another generator within the dispatch day, and thus are exposed to incurring unfavourable deviation prices in balancing; and
- there also appears to be a desire to allow IPPs to contribute towards balancing more effectively where this makes sense economically.

[26] IMO, *Market Advisory Committee Meeting Number 20, 10 June 2009 - Agenda and attached papers* http://www.imowa.com.au/Attachments/MarketAdvisoryCommittee/Meeting20MAC_PapersZipped.zip

The Authority notes that the IMO has advised the engagement of a consultant to prepare relevant background material on competitive balancing, in response to concerns raised by Market Participants regarding the balancing mechanisms provided for under the market design. The consultant's findings will be tabled with the MAC in due course and will be made publically available at that time.[27]

Discussion Point 11

The Authority invites comment on competitive balancing. In particular, ahead of the introduction of competitive balancing, to what extent is it appropriate to:

- **require the equivalent of a Resource Plan from Verve Energy;**
- **enhance reporting in respect of outages by unit, and fuel usage changes from plan; and**
- **make any other operational changes.**

4.9 Rule Change Process

Most stakeholders were supportive of the need for the IMO to progress a large number of Rule changes, however, some expressed reservations about the sheer number of Rule changes in train at any one time. Some stakeholders also raised concerns in respect of the process for devising and refining Rule changes.

Smaller or newer participants, in particular, felt that there were too many Rule changes to digest for organisations where a single person has responsibility for keeping abreast of Rule changes as well as having various other responsibilities.

As in previous Minister's Reports, some stakeholders objected to the MAC and working group processes being used to refine Rule changes on the basis that they encouraged a self-interested 'insiders' approach to Rule change development. According to these stakeholders, this skewed the Rule change development towards the interests of those participants with greater resources. On the other hand, participants on the MAC that have more resources may have distinct perspectives on the same issue, and the variety of different types of Market Participants on the MAC should provide a degree of balance.

Another issue raised in previous Minister's Reports, was the concern over the role of the IMO as both Rule enforcer and Rule maker in the WEM. Some stakeholders commented on a perception that some Rule changes were motivated by the IMO's desire to address issues arising from its enforcement activities, and for this reason the IMO would be unlikely to change any pre-existing views during stakeholder consultation on a Rule change. The proposed means of addressing this concern was to reallocate the task of assessing at least major 'strategic' Rule changes to an independent party external to the MAC. More operational Rule changes could remain with the MAC.

Another criticism of the Rule change process was an alleged lack of economic analysis in Rule change decisions.

[27] IMO, *Market Advisory Committee* http://www.imowa.com.au/market_advisory_committee.htm

Stakeholders also commented they could not see an obvious alternative to the IMO as continuing in the dual roles of Rule maker and enforcer.

In relation to these issues, the Authority notes the following:

- the IMO plans to assist with but not steer the road map process (see section 4.9);
- the IMO has shown a willingness to consider market inputs including reversing its earlier decisions in Rule changes as demonstrated in Rule change proposal RC_2008_34 (see section 5.4.3);
- Market Participants are able to appeal to the Energy Review Board against any adverse decision from the IMO; and
- in relation to cost reflectivity in STEM price-quantity submitted steps, the Market Rules require that the Authority conduct an investigation before the IMO imposes a penalty through the Energy Review Board.

Discussion Point 12

The Authority invites comment on the Rule change process. In particular, given the potential for the more active Market Participants to be better placed to argue their position on Rule change proposals, the Authority invites comment on:

- **whether there is sufficient balance in the Market Participant classes represented on the Market Advisory Committee; and**
- **whether a better resourced Independent Market Operator could address concerns relating to the self-interested positions taken by Market Participants.**

Discussion Point 13

The Authority invites comment on:

- **the extent to which the Rule change process could be reasonably delineated to separate operational from more strategic matters; and**
- **whether a different assessment process should apply to strategic Rule changes.**

4.10 Performance of the Independent Market Operator, System Management and the Economic Regulation Authority

A number of stakeholders noted that the IMO had increased its personnel, which had assisted in its ability to fulfil its obligations. These comments were offset by a stakeholder who believed that the IMO is under-staffed. In section 4.5 of the IMO's 2009/10 Operational Plan[28], the IMO set out three-year expenditure of $28.1 million for the 2007/08 – 2009/10 financial years based on actual results for 2007/08, projected results

[28] IMO, *2009/2010 Operational Plan* http://www.imowa.com.au/Attachments/OperationalPlan2009-10.pdf

for 2008/09 and 2009/10 IMO budget. The Authority's March 2007 allowable revenue determination for the IMO for the 2007/08 – 2009/10 financial years allowed for total expenditure across the period of $29.72 million (after allowing for interest revenue of $48,000).

Some participants also credited the new administration of the IMO as being responsible for implementing a clearer internal structure and strategic direction.

One participant raised concerns about the timeliness of the receipt of metering data, but acknowledged that this was also the responsibility of Western Power.

Several participants expressed concern about indications from the IMO that it was shaping to lead the road map process proposed in the Authority's last Minister's report. However, the IMO gave its assurances in informal consultation that it had heeded these concerns and was now working collaboratively with the Office of Energy to take the road map forward under the Office of Energy's leadership.

Many participants were also satisfied with the performance of System Management. In this context, the IMO noted that System Management's Rule compliance record had significantly improved.

However, one stakeholder suggested that System Management's Market Information Technology System (**SMMITS**) Market Participant Interface (**MPI**) requires updating from a web application to a web service. The difference between the two is a web application resides on a server, but is designed for use by humans, which uses web pages as the presentation layer. All user interactivity is done through web pages, but all data is stored and, in most cases, manipulated on the server. Whereas a web service is a server-based application that may be accessed over the Internet, but is primarily designed for interaction with other programs. An advantage of a web service over a web application is it can sit between two remote server-based programs, for example one at the market generator's site and one at the system operator's site, and pass data between them over the Internet (in this scenario, primarily from the generator to the system operator). Once a generator has prepared the data for sending the web service requires less effort from an operational perspective. The stakeholder posited that this will represent a significant time saving in respect of the human resources needed by generators to meet their relevant compliance requirements.

System Management has advised it is aware of, and has noted, the request for its MPI to be upgraded to a web service, and acknowledged the advantages this upgrade would facilitate. However, System Management has allocated this request a lower priority than other enhancements requested to the MPI.

On the performance of the Authority, the feedback from the Authority's informal consultation process was generally positive. Many stakeholders commented that the 2008 Minister's Report represented an improvement over the initial Minister's Report for 2007, perhaps due to the more established phase the market had entered by 2008 and the increased scope for the Minister's Report to offer definitive commentary on the nature of outstanding issues. However, some stakeholders questioned whether the reports need to be undertaken every year, and raised the possibility that the reports can be undertaken every two years as the market matures. More broadly, some stakeholders commented that as the market evolves, they consider the Authority might be insufficiently resourced to play a broader role in investigating and addressing economic issues related to the market.

Discussion Point 14

The Authority invites comment on the effectiveness of the Independent Market Operator, System Management and the Economic Regulation Authority.

5 Fundamental Changes to the Wholesale Electricity Market Design

As noted above, the Authority generally received a positive response from stakeholders on the proposed road map process described in the 2008 Minister's Report to help resolve key market design issues within the WEM. Most stakeholders agreed that the Office of Energy was the appropriate institution to develop and lead the road map, as it was the principal policy agency in the Western Australian energy sector. However, some stakeholders expressed concern that the Office of Energy lacked the resources and the technical capability to progress all the matters allocated to the road map process in the 2008 Minister's Report. In this context, the Authority never intended that the road map would solely become the task of the Office of Energy. Rather, the Office of Energy would be able to draw on the skills and resources of the IMO, System Management, Western Power and Market Participants (as well as the Authority) to address these matters over time.

This section discusses a number of matters that were flagged for resolution in the road map process and continue to be of interest to stakeholders.

5.1 Network Planning Approach

Western Power's approach to network planning is informally referred to as embodying an 'unconstrained' network approach. Under this approach, new generators are connected to the network where and when the network can accommodate the full output of connected generators. In contrast, a 'constrained' network approach allows generators to be connected to the network even though the transfer capability of the network may not accommodate the full output of connected generators.

In the second Minister's Report, the Authority recommended that the network planning approach be addressed as part of the proposed road map process. In particular, the Authority noted that there is a fundamental choice to be made between the 'unconstrained' and a 'constrained' network planning policy. The Authority noted that a continuation of the unconstrained network policy will make progress on new connections and network accountability difficult to achieve and could be expected to lead to continually rising costs. A move to a constrained network approach is likely to see less costly and faster new connections, but would require fundamental market redesign. In particular, the operation of the Reserve Capacity Mechanism in ensuring that sufficient capacity enters the market would need to be reconsidered.

As in the last Minister's Report, a number of stakeholders highlighted inefficiencies created by the unconstrained network planning approach. It was contended that this approach could lead to over-building of the transmission network, particularly where network development occurred in order to accommodate plant with low capacity factors, such as wind generators. At the same time, most parties acknowledged that use of the unconstrained approach in some form was hard to avoid in light of the assumption inherent in the Reserve Capacity Mechanism that load could be met by credited capacity regardless of where it was located in the system.

One option that was raised in informal consultation was to apply the unconstrained planning approach only to the point where an intermittent generator's (e.g. wind plant) output reached levels corresponding to the proportion of its rated capacity that was

eligible for Capacity Credits. Therefore, instead of augmenting the network so that it could accommodate all connected plant being fully dispatched, the network would only be required to be developed to the point where constraints would bind when wind dispatch exceeded levels corresponding to the quantity of Capacity Credits for which it was eligible.

Discussion Point 15

The Authority invites comment on options for promoting efficiency in network planning and investment that are consistent with the Reserve Capacity Mechanism requirements.

5.2 Short Term Energy Market

A number of stakeholders reiterated the need to reconsider the STEM gate closure, particularly in relation to moving it closer to the start of the trading day, and, in relation to gate closure of gas nominations.

Given the small amount of energy traded in the STEM, a few stakeholders questioned the need for the STEM at all. Other stakeholders, however, see the STEM as meeting their requirements.

5.2.1 Short Term Energy Market Gate Closure Timing

In order to explore the implications of the timing of STEM gate closure in the WEM, it is worth reviewing the interactions between the timing of nominations for the Dampier to Bunbury Natural Gas Pipeline (**DBNGP**) and the STEM.

In the SWIS, gas is largely purchased on long-term contracts and gas transport is also largely booked through multi-year contracts. Thus a gas generator will know, within limits, its gas entitlement before making a STEM submission. Post-STEM clearing, after putting together its Resource Plan, a generator other than Verve Energy will know its gas requirement for the gas day with greater certainty. These generators require gas nomination flexibility to match their gas requirement for the gas day. Verve Energy, as the balancing generator, presumably plans its gas requirement after System Management has determined how to dispatch Verve Energy plants to accommodate the Resource Plan outputs.

Normally, the flexibility in the gas supply contracts and the gas transport contracts will be sufficient for participants to meet their gas requirement for the gas day. Where this is not the case, participants will have to try to trade gas within the limited group of established trading counterparties.

As was the case with last year's Minister's Report, several stakeholders raised concerns about the timing of the STEM and the impact that the timing of the STEM had on the ability to manage gas requirements. Some stakeholders suggested that the relatively early gate closure of the STEM compared to the timing of nominations for the DBNGP, and the risk of penalties in balancing if insufficient gas is secured to fulfil STEM bids, has the effect of deterring participation in the STEM. The early gate closure of the STEM can also have implications for the costs that Verve Energy faces in providing balancing, with balancing in some cases provided by plant running on liquid fuel while the MCAP does not reflect the costs of running on liquid fuel.

One participant suggested that, on balance, adopting an approach of multiple gate closures is likely to be a less costly option for addressing this issue than a move to real-time pricing. One other participant suggested moving to one bid and then readjust, but recognised this would likely not be a low cost modification, given the information technology system modifications that would be needed and therefore would warrant a cost benefit analysis. In its submission to the AEMC *Review of Energy Market Frameworks in light of Climate Change Policies*, System Management noted the difficulty of a later STEM gate closure from a dispatch planning perspective.

Discussion Point 16

The Authority invites comment on the gate closure timing in the Short Term Energy Market (STEM). In particular, given that the issue of STEM gate closure timing will be considered as a part of the proposed road map process, the Authority invites comment on:

- **leaving the STEM gate closure as it is; or**
- **moving STEM gate closure closer to the start of the trading day.**

5.2.2 Value of the Short Term Energy Market

During the course of informal consultation, some stakeholders took the opportunity to question the value of maintaining the STEM at all in light of the small and decreasing volume traded in this market. According to these stakeholders, this decrease in volume is occurring despite participants presumably becoming more familiar with the workings of the STEM over time.

Other stakeholders considered that the STEM has an important role to play in the WEM, as it is one of the few sources of price information available to participants. In order to enhance the value of this information, some suggested that there should be increased transparency around the fuel mix of plant used to derive STEM price outcomes.

The Authority notes that the STEM is designed to support the bilateral contract market, as explained in the Market Design document.[29] The STEM provides generators with the opportunity to deviate from their bilateral positions: producing more and selling into the market if production costs are lower than the market price, or producing less and buying from the market if production costs are higher than the market price.

The STEM also provides retailers with the same ability to trade around their bilateral positions. Recognising this, STEM bids and offers are defined relative to bilateral contract positions. An implication of this is that the STEM traded quantity is not critical to determining the STEM clearing price.

The Authority also notes that volumes in the STEM appear to have increased in recent months (see section 3.2.1 above).

Further, the Authority notes that even if the STEM were abolished, this could lead to few savings in practice due to the ongoing need for the balancing mechanism, which utilises many of the same inputs (e.g. bids) as the STEM.

[29] IMO, *Wholesale Electricity Market Design Summary*, September 2006 http://www.imowa.com.au/Attachments/MarketSummarySeptember2006.pdf

Discussion Point 17

The Authority invites comment on the benefits provided by the Short Term Energy Market (STEM).

5.3 Price Caps and Bidding Rules

A number of stakeholders commented on the price caps and bidding rules in the market.

Several stakeholders commented that there is an overlap between the price caps and bidding rules. Since generators are required to offer their energy in the market to reflect at short run marginal cost (**SRMC**), some stakeholders questioned the need for two price caps. The view is that the SRMC bidding rule effectively requires that bidders running on non-liquid fuel will comply with the non-liquid price cap and bidders running on liquid fuel will comply with the liquid price cap. Given this, stakeholders questioned the need for two price caps and, indeed, some bidders questioned the need for any price caps at all.

More specifically, some stakeholders commented that during periods of steep increases in fuel prices, there is the possibility that the cost of generation could exceed one or other of the price caps. Presumably the view is that the risk to generators would be lower if a single or no price cap applied in circumstances where the SRMC bidding rule continued.

The Authority notes that both the issue of the removal of SRMC bidding rules and the desirability of moving towards a single maximum STEM price were identified as matters to be dealt with in the road map process.

Discussion Point 18

The Authority invites comment on the appropriateness of the price caps and bidding rules in the Wholesale Electricity Market.

5.4 Reserve Capacity Mechanism

By way of background to a discussion of Reserve Capacity Mechanism (RCM) issues, the Authority notes that proponents of new power stations need to decide on appropriate investments based on a projection of load a number of years in the future, for example, up to 5 - 6 years in the future for base load plant. Their decisions about the appropriate type of plant to build (base load, mid-merit or peaking) will be based on their judgement of what type of plant will be required by the market given the forecast of demand.

With the RCM operating two years in advance of the relevant capacity year, it is assumed that proponents of longer lead time generation plant will have planned and possibly even part-built their plants before the relevant RCM year. The longer lead time plants may seek to be conditionally certified earlier than two years in advance of commissioning. Therefore, the two-year in advance RCM does not necessarily exclude the longer lead time generators, although it would be likely to impact on the risks faced by such generators.

Arguably, longer lead time generation projects face more uncertainties than OCGT plant. These additional sources of uncertainty include variations in the business climate, financing costs and availability, fuel contracting and even regulatory changes. These

uncertainties may also make it difficult for the generator proponent to secure bilateral contracts with off-takers. However, the reward, if the generation comes in at the time when that duty cycle capacity is short (that is whether it is base-load, mid-merit or peaking capacity) could be significant for the generator and its bilateral off-takers.

Besides the duty cycle consideration, other factors also influence the choice of generation technology and type: for example, fuel resources available, the expected value of Renewable Energy Certificates and the expected price of carbon.

The IMO provides detailed information on the supply and demand circumstances in the Market in its Statement of Opportunities[30] report, released around 1 July each year. Stakeholders may find relevant information in the report, including information in respect of peak capacity, fuel mix and facilities' listed capacity.

5.4.1 Reserve Capacity Mechanism Plant Mix, Price-setting and Timing

As in previous years, a number of stakeholders raised concerns about the approach for price-setting within, and the timing of, the RCM. In particular, the question of whether the RCM created incentives for the right mix of plant was once again a common theme raised in consultation. Many stakeholders considered that, as the RCM price was based on the cost of an open cycle gas turbine (**OCGT**) plant and Capacity Credits were provided on the basis of capacity to be made available in two years, the RCM would inadequately incentivise mid-merit plant (and possibly base load plant) which has higher fixed costs and longer project lead times than OCGT plant. As in the past, the scope for conditional certification was not seen as addressing the timing aspect of this problem, as conditional certification did not guarantee Capacity Credits in the future.

Some stakeholders spoke in favour of the design of the Wholesale Electricity Market, arguing that it offered stronger incentives for new base load plant than the energy-only National Energy Market. Wind plant, in particular, was also seen as benefiting from the RCM.

While stakeholders typically recognised that the RCM has delivered adequate capacity to the market since market commencement, some stakeholders noted that the global financial crisis may have a negative impact on the ability of proponents to finance new projects, which may ultimately have consequences for investment in new generation plant in the WEM. While the Authority recognises that the global financial crisis might have consequences for the ability of proponents to finance new projects, the Authority expects that financing issues are unlikely to be resolved by changing the design of the WEM. Nevertheless, as part of its role in monitoring the wholesale market, the Authority will continue to monitor the effectiveness of the RCM in delivering new generation capacity.

[30] IMO, *Statement of Opportunities* http://www.imowa.com.au/10_5_1_m_stmt_of_opp.htm

Discussion Point 19

The Authority invites comment on the appropriateness of the Reserve Capacity Mechanism for determining the Reserve Capacity Price. In particular:

- **is there any evidence demonstrating that overall pricing signals provided in the Wholesale Electricity Market (for capacity and energy) are encouraging an inappropriate mix of plant; and**
- **are there alternative mechanisms, or changes to the Reserve Capacity Mechanism, that could better achieve the Market Objective of promoting the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West Interconnected System.**

Discussion Point 20

The Authority invites comment on the merits of moving the Reserve Capacity Mechanism to more than 2 years in advance of the relevant Capacity Year, and the extent to which such a change could assist in resolving network access application problems.

5.4.2 Reserve Capacity Refunds

Some stakeholders questioned the appropriateness of the arrangements regarding Capacity Credit refunds, particularly in circumstances where there is adequate system capacity to meet demand, that is, there is no threat of curtailment. Under the Market Rules, providers of Capacity Credits who fail to meet the obligations of Capacity Credits will have to pay a refund that reflects a measure of the value to the system of the capacity not provided.

Stakeholders raised concerns in regards to the reserve capacity refund mechanism, including:

- refunds should be determined by the impact of the capacity being unavailable instead of setting refunds in accordance with the refund table (which accounts for seasonal and peak and off peak periods) as set out in Clause 4.26 of the Market Rules; and
- the failure of the mechanism to take into account the market capacity requirement at the time the refund applies, and the potential disincentives this creates for generators to plan adequately, for example to plan outages in seasons other than in summer (that is, when refunds are higher).

Determining refund payments on the basis of the market value of the capacity may be seen as consistent with the incentives that would operate in an efficient market. In an efficient market, a generator with a plant out of service is unlikely to rush to bring the plant back into service in the absence of any anticipated requirement for the unit. However, in the WEM, a generator will not be earning its Reserve Capacity Credit during its forced outage and therefore faces an incentive to bring the plant back into service to run even when it is not anticipated to be required. There may be merit in a mechanism that takes into consideration the impact on the market of that capacity not being provided at the time.

Importantly, however, the incentives that generators face to bring plant back to service in an efficient market are not based simply on the probability of curtailment, but also on the cost of the plant and its size and position in the merit order. For example, the outage of a large low cost baseload unit will cause a large gap in the merit order and create the need for higher-cost plant to be dispatched resulting in a higher market price.

Discussion Point 21

The Authority invites comment on the extent to which changes to the Reserve Capacity refund mechanism can better promote the Market Objectives.

Discussion Point 22

The Authority invites comment on whether the Reserve Capacity refund mechanism should be included for consideration as part of the road map proposed in the Authority's 2008 review of the market.

5.4.3 Supplementary Reserve Capacity

Some stakeholders questioned the suitability of the current arrangements for the funding of Supplementary Reserve Capacity (**SRC**).

The Authority notes that the funding of SRC capacity has recently been the subject of Rule change proposals. In particular, the IMO conducted a workshop on 28 April 2009 in relation to Rule change RC_2008_34 *Funding of SRC in the event of Capacity Credit cancellation*. The IMO's consultant – McLennan Magasanik Associates (**MMA**) – reported on the outcomes of the workshop, with that report available on the IMO's web site.[31] MMA's report noted that the Rule change was originally proposed with the intention to have the cost of SRC funded, within limits, by generators that have their Capacity Credits reduced, suffer extended Forced Outages of power plant or experience delayed commissioning of new plant of severity sufficient to require SRC. However, MMA noted that there was consensus among Market Participants that the scope of the changes needed further attention to minimise the risk of unintended consequences, and recommended that a new process examine these broader issues before finalising a Rule change. On 26 June 2009, the IMO released its Final Rule Change Report on RC_2008_34.[32] The IMO rejected the Rule change on the grounds that substantive issues still require resolution.

5.5 Incentives for Demand Side Management

Demand Side Management (**DSM**) is the process of managing the consumption of energy, generally to optimise available and planned generation resources. DSM refers to actions taken on the customer's side of the meter to change the amount or timing of energy consumption. DSM strategies can also have the goal of improving end-use efficiency to avoid or postpone the construction of new generating plants and/or network assets.

[31] IMO, McLennan Magasanik Associates Paper: *Review of Rule Change 34 - Issues Arising from the Public Forum 28 April 2009*, 11 May 2009
http://www.imowa.com.au/Attachments/MarketProcedures/MMAReport_11052009.pdf

[32] IMO, *Final Market Rule Change Report Title: Funding of SRC in the event of Capacity Credit cancellation Ref: RC_2008_34*
http://www.imowa.com.au/Attachments/RuleChange/RC_2008_34_FinalRuleChangeReport.pdf

Some stakeholders praised the design of the WEM for offering incentives for DSM through the RCM. The RCM requires loads (connections where electricity is consumed) to be 'signed up' two years in advance. Some retailers appeared to be responding by gathering a portfolio of customers able to provide load reduction closer to the RCM operating year. Often a contract between a retailer and end user for providing DSM capacity may not coincide with the RCM cycle, that is, two years into the future from when the Reserve Capacity Credit is certified. Given the uncertainty of contracting with an end use customer, some stakeholders commented that two years was too long and suggested that DSM should be rewarded independently from its value in providing Reserve Capacity.

Discussion Point 23

The Authority invites comment on the extent to which the regulatory arrangements surrounding the incentives for parties to engage in Demand Side Management are appropriate.

6 Industry Structure and Regulatory Settings

This section discusses issues related to broader structural and regulatory settings that impact on the market. These issues are external to the design of the market, but may nevertheless impact on the extent to which the market achieves its objectives. While the Authority considers that these issues cannot be resolved within the framework of the WEM, the Authority nevertheless invites comments on how these issues – or other broader structural and regulatory settings – impact on the extent to which the market can achieve its objectives.

Discussion Point 24

The Authority invites comment in respect of the impact of structural issues on the effectiveness of the market and achievement of the Market Objectives.

6.1 Merger of Verve Energy and Synergy, and the Vesting Contract

For various reasons Verve Energy has been unprofitable in recent years. To return Verve Energy to a profitable level the Government has raised the possibility of merging Verve Energy and Synergy.

The Government has also commented that it is not sufficiently confident that the market in its current design and operation is able to provide the generation capacity into the future. To assure itself that there should be no load shedding in the market, the Government has included an investment of $260 million in its recent budget to construct two 100 MW high efficiency gas turbines at the Kwinana Power Station.[33]

Verve Energy has also concluded a memorandum of understanding with Inalco Energy – forming a joint venture Vinalco Energy – to refurbish, upgrade and recommission Muja A/B to be available for the 2012 summer. The refurbished Muja A/B, with a total capacity of 240 MW, will be fitted out to improve its environmental performance. Verve Energy considers this initiative will provide assurance over a period of supply uncertainty (due to the heightened barriers to entry such as technical risk, CPRS and capital constraints).

During informal stakeholder consultations, the vast majority of parties expressed serious concerns about a merger of Verve Energy and Synergy and about new investment by Government and/or Verve Energy. Some stakeholders specifically raised concerns about the potential breach of the 3,000 MW cap on Verve Energy's generation capacity and commented that they were concerned about the impact of these proposals on further private sector investment opportunities in the WEM. The Authority also notes that the displacement mechanism in the Vesting Contract between Verve Energy and Synergy – which requires Synergy to tender for capacity and energy to replace the capacity and energy provided under the Vesting Contract – has facilitated significant new investment in generation since market commencement. A merger of Verve Energy and Synergy would raise questions about the continuation of this tendering process.

[33] See for example; Hansard 2009, Assembly – 28 May 2009, p469b-473a.

To the extent such moves contribute to an even more concentrated industry structure than exists at present, the Authority welcomes views on the effect this will have on the WEM in being able to effectively meet the Wholesale Market Objectives. Evidence in other electricity markets suggests that the ongoing success of the market, particularly in delivering benefits to end-users, depends on competition in both the generation and retail sectors.

In regard to the adequacy of generation investment in the WEM, the Authority notes that the RCM has so far delivered more than adequate generation capacity to the market. As discussed in section 3.1, each of the four reserve capacity cycles that have been run to date have delivered more than enough generation capacity to meet the required level of reserve. The Authority also notes that 26 Expressions of Interest were received for the current Reserve Capacity Cycle, totalling 1,278.8 MW of additional capacity potential. The IMO has recently reported on a number of new private sector generation projects that it expects to proceed beyond the current Reserve Capacity Cycle.[34]

6.2 Retail Tariffs

Another issue raised by stakeholders was the ongoing non-cost-reflectivity of retail tariffs. This was considered by a number of stakeholders to hinder retail competition and discouraged the new entry of generators as well as retailers. However, stakeholders generally recognised that significant progress has been made since the time of the last Minister's Report, with the Government announcing increases in tariffs to take effect during 2009. While these increases are not sufficient to achieve cost-reflectivity, a number of stakeholders commented that a tariff glide path towards cost-reflectivity is appropriate given the magnitude of the required increases in tariffs.

Some stakeholders commented that the problem of cost-reflectivity of tariffs is becoming more acute with uncertainty over the way carbon costs will be treated. In particular, generators found that retailers were reluctant to enter wholesale bilateral contracts without an assurance that retailers would be able to increase their tariffs to reflect any carbon costs that were passed-through those bilateral contracts. The Authority notes that the Office of Energy's retail tariff reports recognise the importance of incorporating carbon costs within reformulated tariffs. The Authority also notes that the AEMC is reviewing the impact of carbon costs on retail tariffs as part of its investigation of energy market frameworks in light of climate change policies, and that the AEMC's review is likely to inform future regulatory decisions on carbon costs in Western Australia and other jurisdictions.

Another issue raised by stakeholders is that non-cost-reflective retail tariffs make it more difficult to recast the Vesting Contract into a more commercial hedging instrument. The issue raised was in regard to the netback pricing arrangement under the Vesting Contract, which results in non-commercial payment terms from Synergy to Verve Energy as long as the regulated tariffs are below cost-reflective levels.

[34] IMO, *Reserve Capacity Mechanism Review Report*, May 2009
http://www.imowa.com.au/Attachments/ReserveCapacity/RCM_ReportV5_PUBLISHED.pdf

APPENDICES

Appendix 1 Glossary

AEMC	Australian Energy Market Commission
CPRS	Carbon Pollution Reduction Scheme
DBNGP	Dampier to Bunbury Natural Gas Pipeline
DDAP	Downward Deviation Administrative Price
DSM	Demand Side Management
IMO	Independent Market Operator
IPP	Independent Power Producer
MAC	Market Advisory Committee
MCAP	Marginal Cost Administrative Price
MMA	McLennan Magasanik Associates
MRET	Mandatory Renewable Energy Target
MSDC	Market Surveillance Data Catalogue
MW	Megawatt
MWh	Megawatt hour
NFIT	New Facilities Investment Test
OCGT	Open cycle gas turbine
PASA	Projected Assessment of System Adequacy
RCM	Reserve Capacity Mechanism
REWG	Renewable Energy Generation Working Group
SCADA	Supervisory Control and Data Acquisition
SKM	Sinclair Knight Merz
SRC	Supplementary Reserve Capacity
SRMC	Short run marginal cost
STEM	Short Term Energy Market
SWIS	South West Interconnected System
WEM	Wholesale Electricity Market
UDAP	Upward Deviation Administrative Price