

Independent Market Operator

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Mr Lyndon Rowe
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Dear Lyndon

The Independent Market Operator (IMO) welcomes this opportunity to provide a submission to this review of the Wholesale Electricity Market (Market) under the Electricity Industry Act 2004.

It is understood that the purpose of this review is to assess the extent to which the objectives of Section 122(2) of the Act have been, or are being, achieved.

Clearly, it is very early days for the Market and long-term trends will take time to emerge. However, the establishment of the Market has already made a significant contribution towards the achievement of Market Objectives.

The Reserve Capacity Mechanism has been particularly successful in ensuring that there is sufficient generation capacity and demand side management to meet peak demand.

Trading of electricity through the Short Term Energy Market and the balancing mechanism has also been effective in providing Market Participants with a real opportunity to buy and sell electricity and manage risk. Significantly, for the first time Western Australian industry has been provided with a transparent price signal for the cost of electricity.

These far reaching Market Objectives will take time to be fully realised. Continued achievement of the Market Objectives will be facilitated by ongoing evolution of the Market, through developments occurring in the electricity industry and further reform stemming from government policy.

In the IMO's submission to the ERA's Discussion Paper for its Annual Wholesale Electricity Market Report to the Minister for Energy, the IMO made a number of observations regarding progressing the achievement of the legislated Market

Objectives. The IMO appreciates that the ERA will further consider our earlier submission on this Review of Operations of the Wholesale Electricity Market.

However, we would like to reiterate that the Market already has successfully contributed towards the achievement of the Objectives through:

- Attracting strong investor interest and as a consequence increasing the number of generators and retailers. At Market start there were 10 generators and 11 retailers, now there are 22 generators and 14 retailers.
- Securing sufficient capacity to meet peak demand over the next three years, despite higher than previously expected peak demand growth.
- Increasing competition in generation. At Market start Verve Energy accounted for around 90% of the capacity credits in the Market, by 2009/10 this percentage will be approximately 60%, with three new Market Participants having significant generation capacity.
- Facilitating entry into the Market of a variety of plant sizes, technologies and fuel types. From 2007/08 to 2009/10 over 900 MW of new gas fired plant will be commissioned with over 60% of this being high efficiency cogeneration or combined cycle plant. During this period, the first privately owned coal-fired plant will be commissioned, the 400 MW Bluewaters facility, along with 210 MW of new renewable generators and 60 MW of new demand side management.
- Increasing the contribution from renewable energy from around 0.5% of total energy in 2003/04 to around 4.6% last financial year. The planned development of the WA Biomass Plant in 2009/10 is expected to lift the share of renewable energy production to around 6.7%.
- Encouraging a number of cost efficient plant upgrades, including a 17% increase in capacity of the Transfield-owned gas turbine station at Kemerton, a 15% capacity increase at Verve Energy's Muja D station and smaller capacity increases at the Kwinana Cogeneration Plant and the Collie Power Station.
- Encouraging Market generators to place strong focus on plant maintenance and availability, and forward scheduling of outages.
- Enabling more cost reflective prices, including by recognising the cost of energy during system peaks. Peak energy costs have on average been 114% higher than off peak prices. Prices have also responded to short term pressures such as fuel shortages and very strong demand.
- Providing the capability for Participants to manage their market exposure risk through mechanisms such as the Short Term Energy Market. This includes the ability of customers to reduce their demand during peak periods, reducing their exposure to capacity costs and, consequently, reducing peak demands.

Attached for your information is a copy of the IMO's Performance and Operations Report for the September Quarter 2007/08.

I have also attached a brief report on IMO activities that have occurred since the IMO's previous submission to the ERA's Annual Report on the Market.

I would welcome the opportunity to discuss our submission with you and any other issues which may arise in developing your report on the Review of the Operation of the Wholesale Electricity Market.

Yours sincerely

ANNE NOLAN
CHIEF EXECUTIVE

23 November 2007

Independent Market Operator



Performance and Operations Report

September Quarter 2007/08

7 November 2007

Public

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1. Executive Summary

This report provides a summary of the key quarterly Market Operational Outcomes as well as an analysis of the IMO's achievement in meeting its Key Performance Indicators (KPIs). The report will be developed on a quarterly basis and will provide the following:

- Market Outcomes
 - Short Term Electricity Market (STEM) and balancing market trades
 - STEM and balancing market prices
 - An analysis of significant events or outcomes
 - Market trends through the quarter, and in comparison to previous quarters
- KPI Monitoring
 - Reporting on the IMO's progress on meeting its Key Performance Indicators

Energy Market Outcomes

STEM trades during the September quarter of the 2007/08 financial year were stronger than previous quarters in 2007. STEM trades have shifted from predominantly peak period trades around market commencement to trades that focus on off-peak periods (evident in the analysis of the September quarter). This is likely to be indicative of commercial incentives for Participants to trade during these lower priced times.

Net balancing trades decreased significantly during the last month of the September quarter as Participants entered bilateral positions that followed their actual demands closely. Balancing trades were high at the end of August due to the low bilateral positions submitted at this time. Average balancing exposure has evolved from negative exposure during the 2006/07 June quarter, to positive exposure during the September quarter.

STEM and balancing prices during the end of July and beginning of August were significantly affected by fuel restrictions. Balancing prices were also affected by significant balancing market exposure at the end of August.

Key Performance Indicators

In the area of IMO Operational Effectiveness and Efficiency the majority of KPIs can be measured and monitored on a quarterly basis. All of these measures have been met for the September quarter, or are on track for the year.

For IMO Market Development the Key Performance Indicators that can be monitored quarterly have all been achieved. The timeline Key Performance Indicator for two market development reviews (Reserve Capacity Forecasting Process and Reliability Criteria reviews) has not been met.

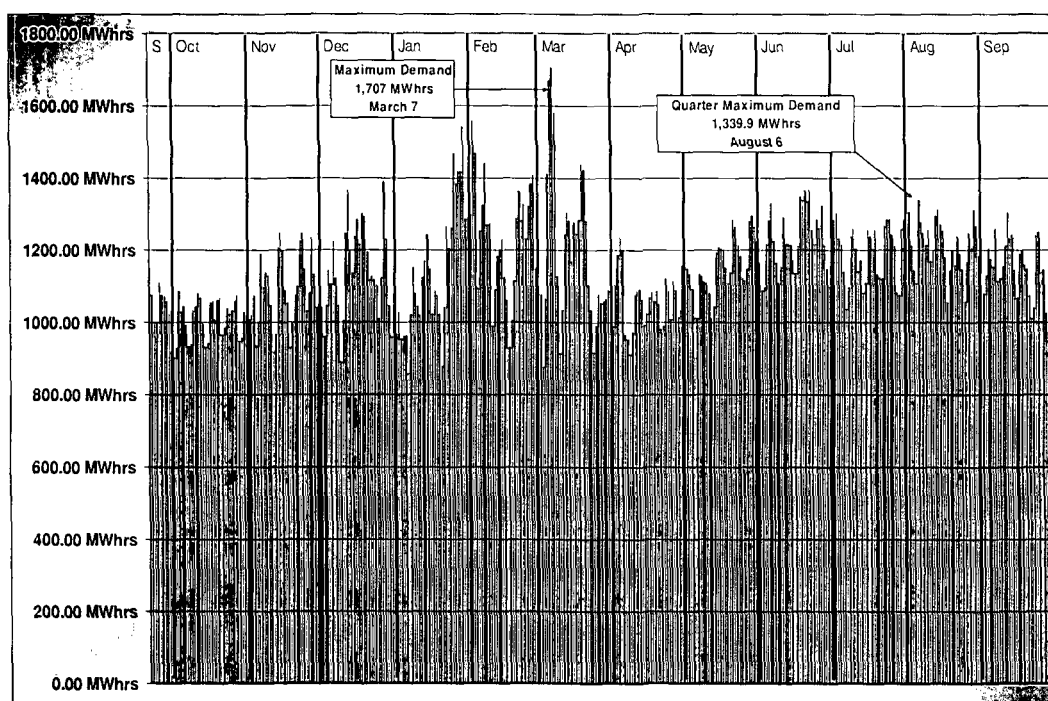
2. Quarterly Market Outcomes

This section provides a summary of the market outcomes for the September quarter of the 2007/08 financial year and compares these to the market outcomes since the commencement of the Wholesale Electricity Market (WEM).

2.1. System Demand

Figure 1 provides the maximum daily half hourly energy readings for the SWIS as indicated by the Operational Load¹. The maximum demand for the September quarter of the 2007/08 financial year (1,339.9 MWhrs) occurred during the evening peak on August 6, driven by low temperatures at this time.

Figure 1: Daily SWIS Maximum Demands (MWhrs per Trading Interval)



Winter evening peak demands in 2007 have been relatively strong. This is likely to reflect the continuing penetration of reverse cycle air-conditioning for space heating. These winter peaks have continued through July and August, and have declined through September.

¹ Under clause 7.13.1(a) of the Market Rules, System Management provides the Operation System Load Estimate to the IMO on the first Business Day following a Trading Day.

2.2. Market Trades

Figure 2 provides the daily and monthly average interval STEM trades since the commencement of the Wholesale Electricity Market. Figure 3 focuses on the September quarter of the 2007/08 financial year and provides the total daily energy traded through the STEM during this period.

Quantities traded through the STEM in the September quarter increased from those experienced during the first six months of the calendar year. The majority of trades continue to occur during off-peak periods, suggesting a commercial benefit for Participants to take advantage of lower prices overnight and at other off-peak times.

During both July and August, STEM trades increased significantly during the last week of the month. The majority of this increased trade occurred between Synergy and Verve Energy and is likely to reflect commercial benefits under the vesting contract between these two parties.

Figure 2: Daily and Monthly Average Interval STEM Trades

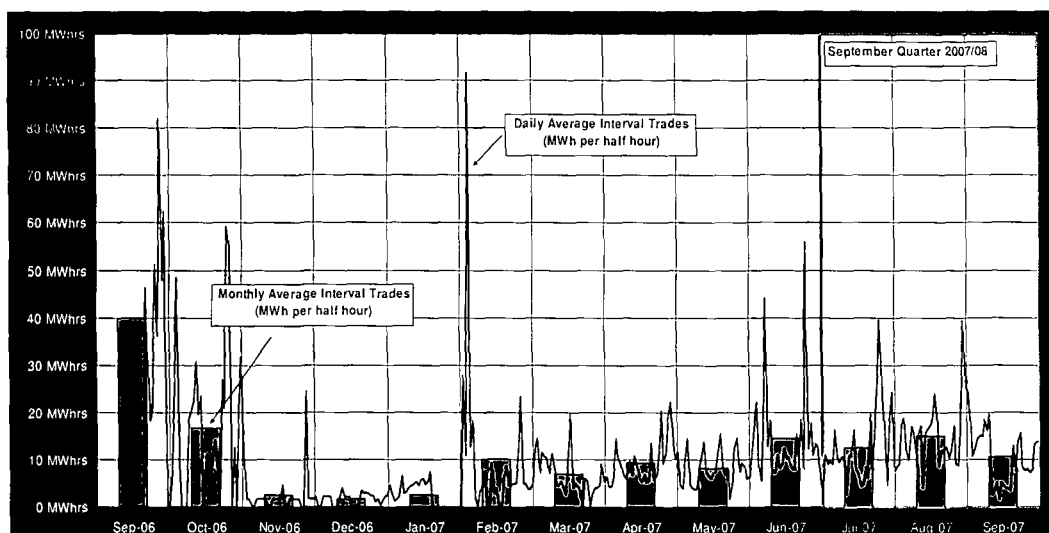


Figure 3: Total Daily STEM Trades (MWhrs summed over all intervals)

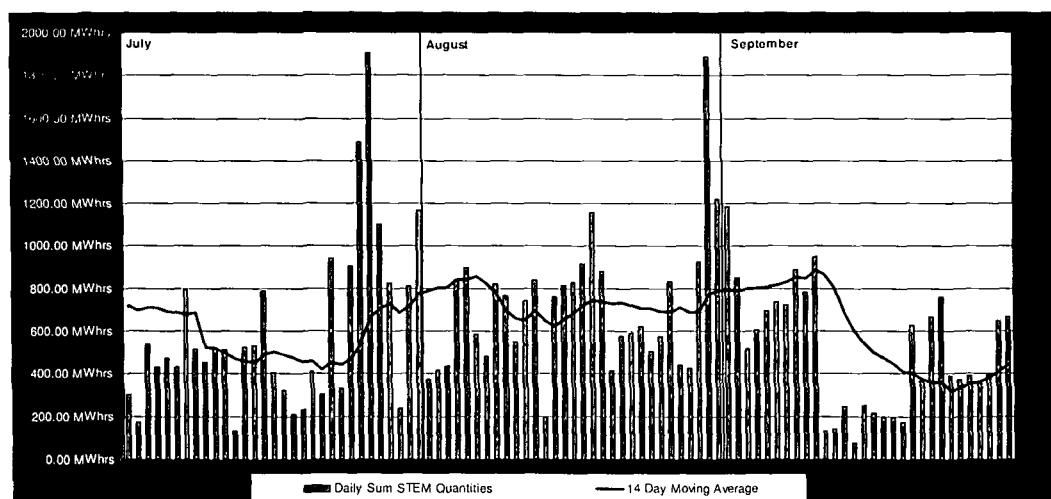


Figure 4 provides the daily and monthly average interval net balancing market trades since the commencement of the Wholesale Electricity Market². Figure 5 focuses on the September quarter of the 2007/08 financial year and provides the total daily energy traded through the balancing market during this period.

Daily net balancing trades were maintained at reasonable levels through most of July and August. Towards the end of August, significantly short bilateral positions led to a large increase in balancing market trades. There was also significant volatility in the balancing market over this period.

Due to the relatively accurate correlation between bilaterally submitted trades and actual demands during September, balancing market exposure during this month was low.

Figure 4: Daily and Monthly Average Interval Net Balancing Market Trades

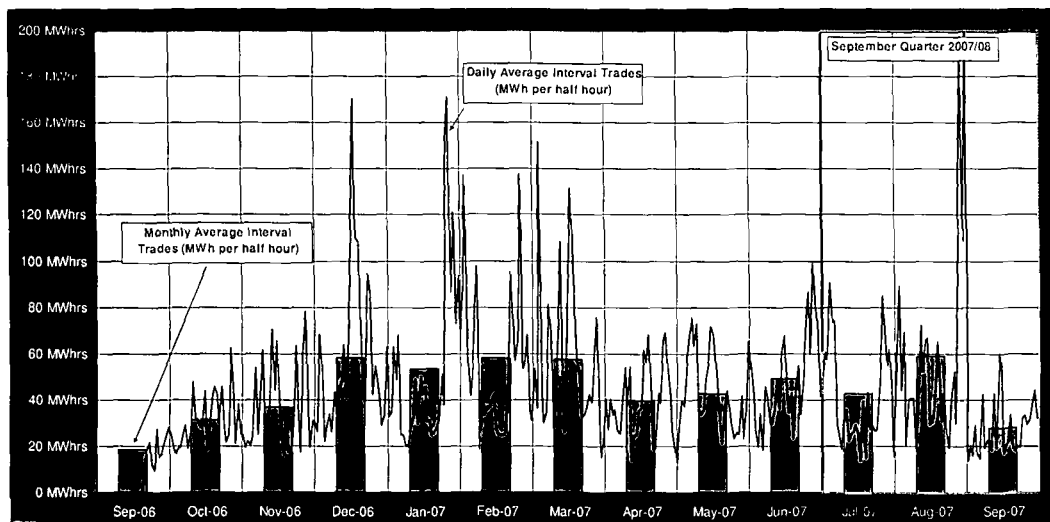
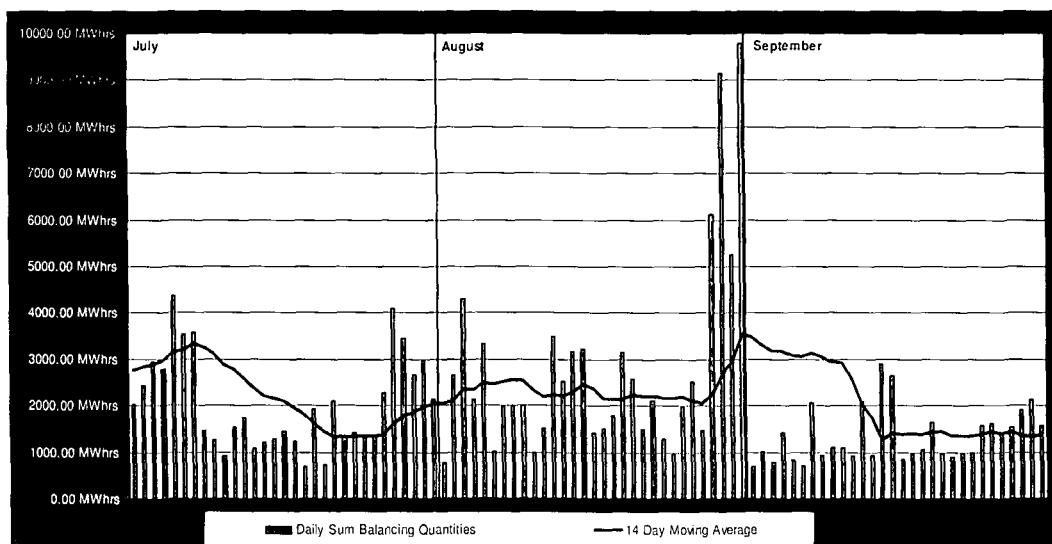


Figure 5: Total Daily Balancing Trades (MWhrs summed over all intervals)



² As balancing trades, for the purpose of this presentation, are represented as absolute numbers both positive and negative net trades contribute to the daily trade amounts.

Figure 6 illustrates the average half hourly trade profiles in both the STEM and balancing markets for all quarters since the commencement of the Market. The gradual shift by Participants from predominantly peak STEM trades to predominantly off-peak STEM trades over this time is evident in this graph. The graphs also show that Participants generally tend to take exposure to balancing during peak periods.

Figure 6: Quarterly Average STEM and Balancing Market Trade Profiles

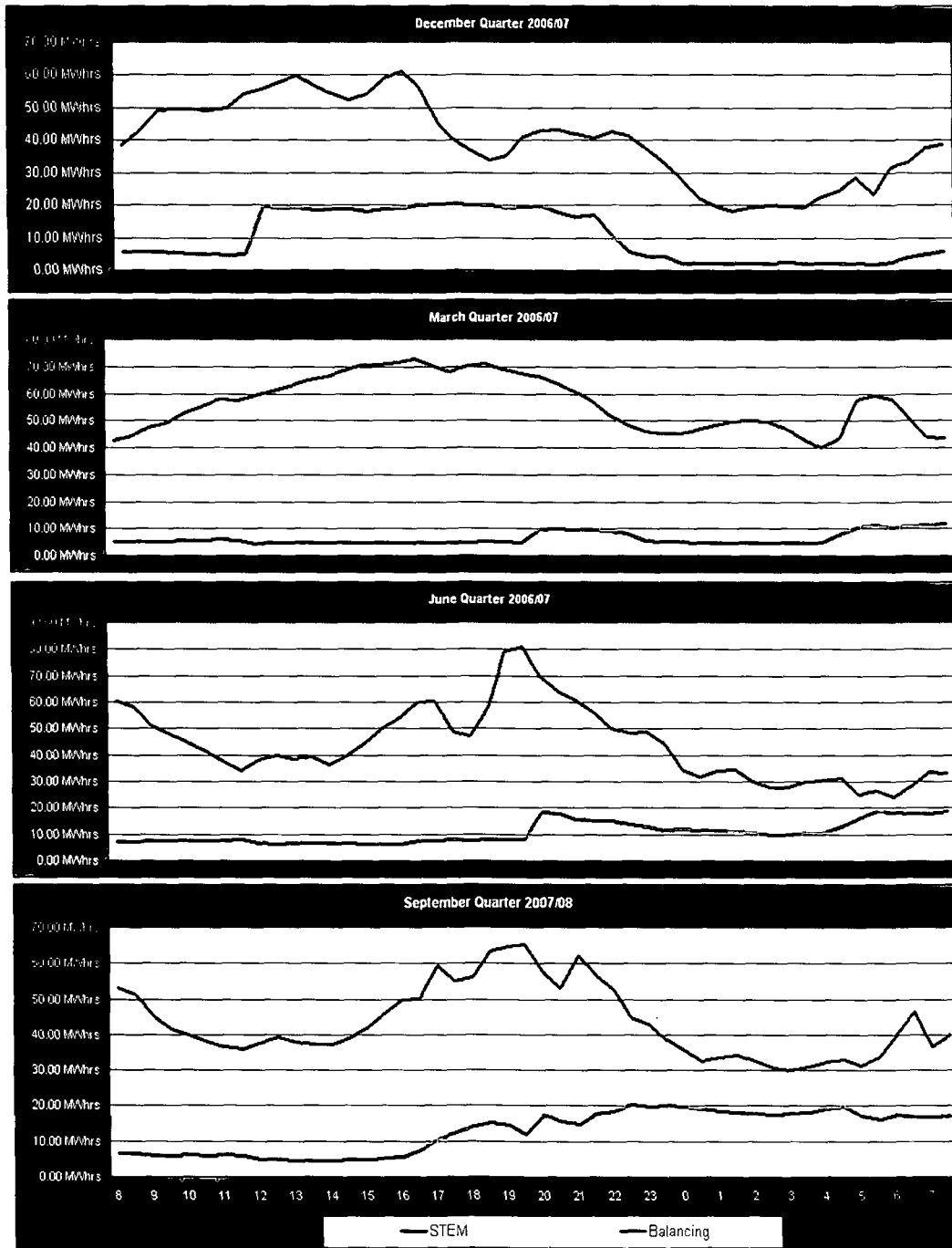
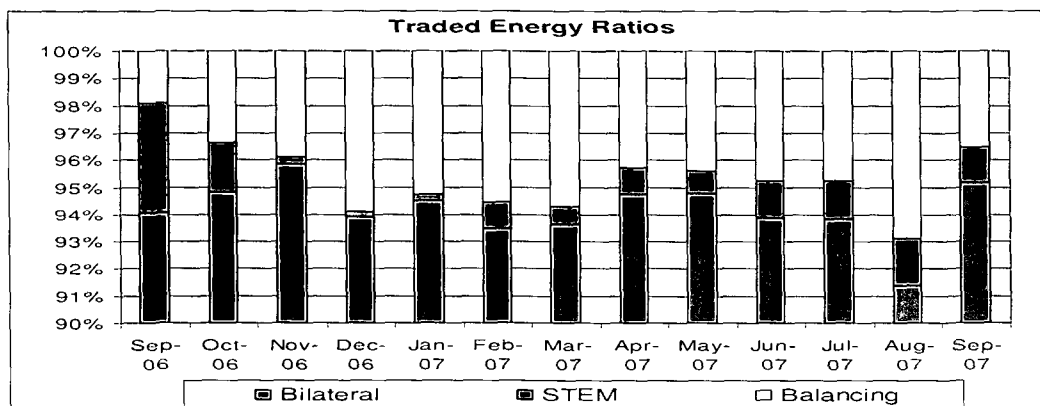


Figure 7 shows all market trades (bilateral, STEM and balancing) as a ratio of total market trades by month since the commencement of the Wholesale Electricity Market. Although STEM trades decreased from August to September 2007, they are

still relatively high in comparison to trades experienced at the beginning of the calendar year. Market Participants continue to effectively manage their risk under bilateral contacts that closely follow their demands. The exception to this was the month of August where Participants opted to take more exposure to the balancing market.

Figure 7: Monthly Total Traded Energy Ratios



2.3. Market Prices

Figure 8 provides the average, minimum and maximum monthly STEM prices as well as the average daily prices since the commencement of the Wholesale Electricity Market. Figure 9 focuses on the September quarter of the 2007/08 financial year and provides daily average, minimum and maximum prices.

Average prices during the September quarter were low in comparison to previous months. However, these did increase by a marginal amount over the three months. Fuel restrictions arising from scheduled maintenance on the Dampier to Bunbury gas pipeline resulted in some higher prices during late July and early August (most notable on July 24).

Figure 8: Monthly Average, Minimum and Maximum STEM Prices

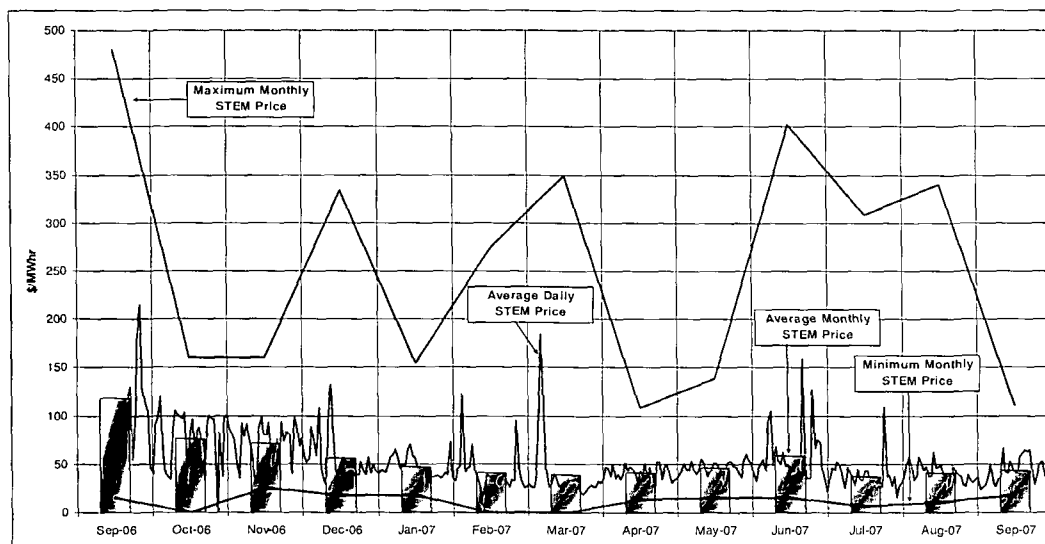


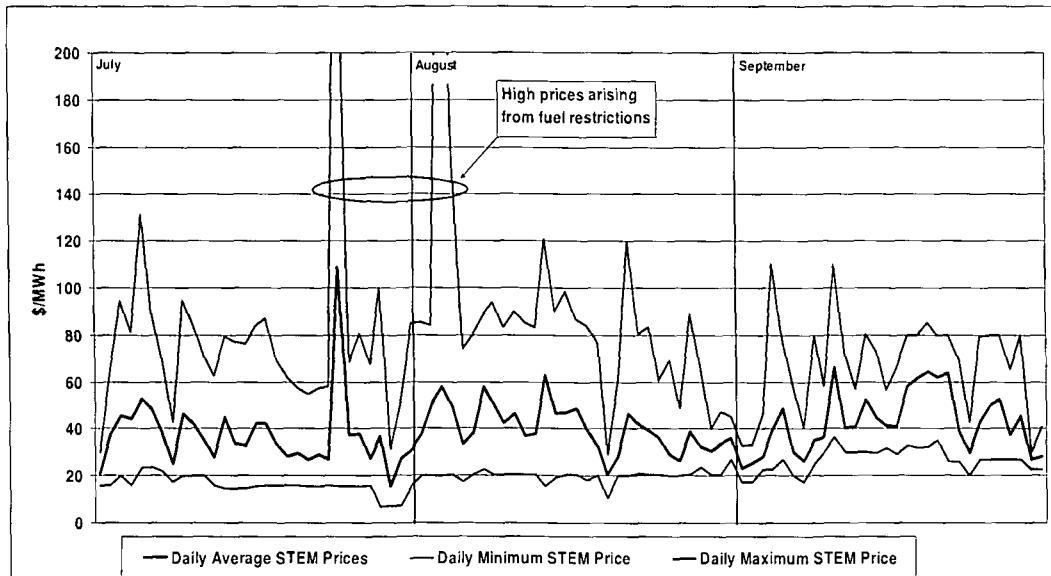
Figure 9: Daily Average, Minimum and Maximum STEM Prices

Figure 10 provides the average, minimum and maximum monthly balancing market prices as well as the average daily prices since market commencement. Figure 11 focuses in on the daily average, minimum and maximum prices for the September quarter.

As was the case for the STEM prices, average balancing prices through the end of July and beginning of August were heavily affected by fuel restrictions during this period. In addition to this, significant balancing exposure at the end of August resulted in high average balancing prices during this period (with significant positive deviation from the STEM price). Average balancing prices towards the end of September 2007 reduced marginally.

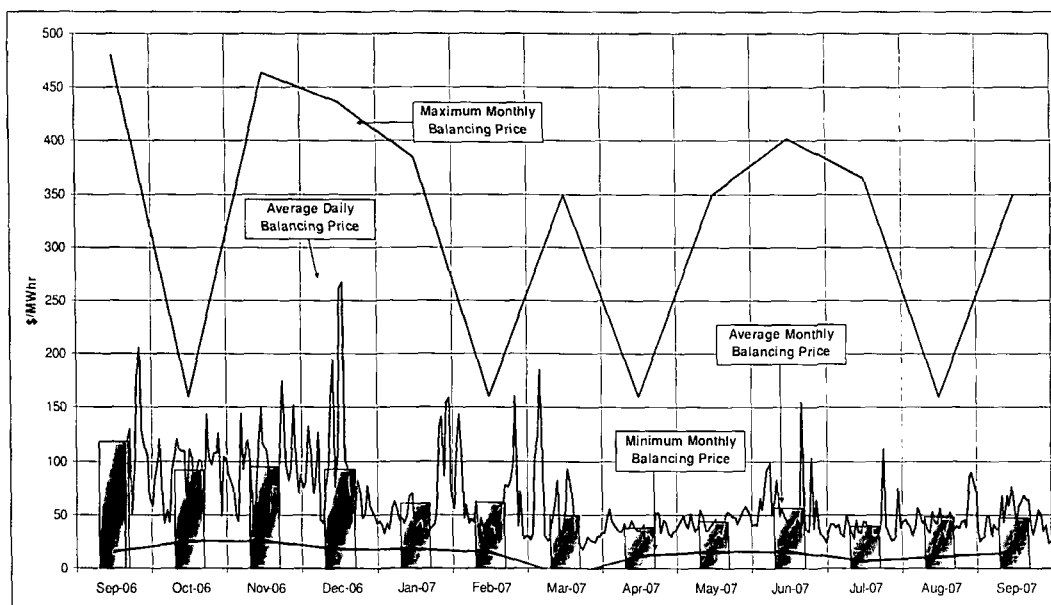
Figure 10: Monthly Average, Minimum and Maximum Balancing Prices

Figure 11: Daily Average, Minimum and Maximum Balancing Prices

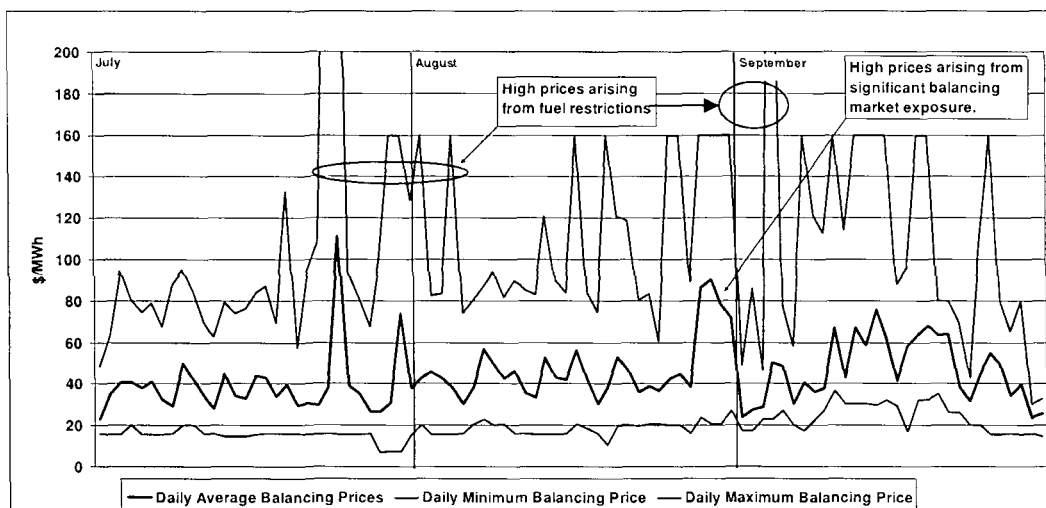
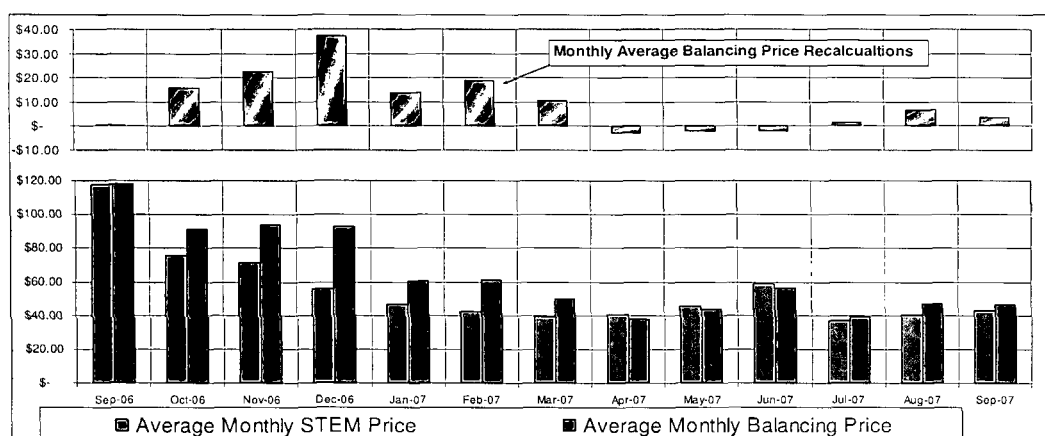


Figure 12 provides the average monthly STEM and balancing prices and the difference between these.

Where the system demand falls within a tolerance of the STEM clearance point, the balancing price is set equal to the STEM price. However, where the system demand falls outside of this tolerance band the balancing price is recalculated.

- Where the average balancing price is higher than the average STEM price, customers have generally had low bilateral/STEM positions and have purchased energy from the balancing market (positive balancing exposure).
- Where the average balancing price is lower than the average STEM price, customers have generally had high bilateral/STEM positions and have sold energy back to the balancing market (negative balancing exposure).

Figure 12: Monthly Average STEM and Balancing Prices

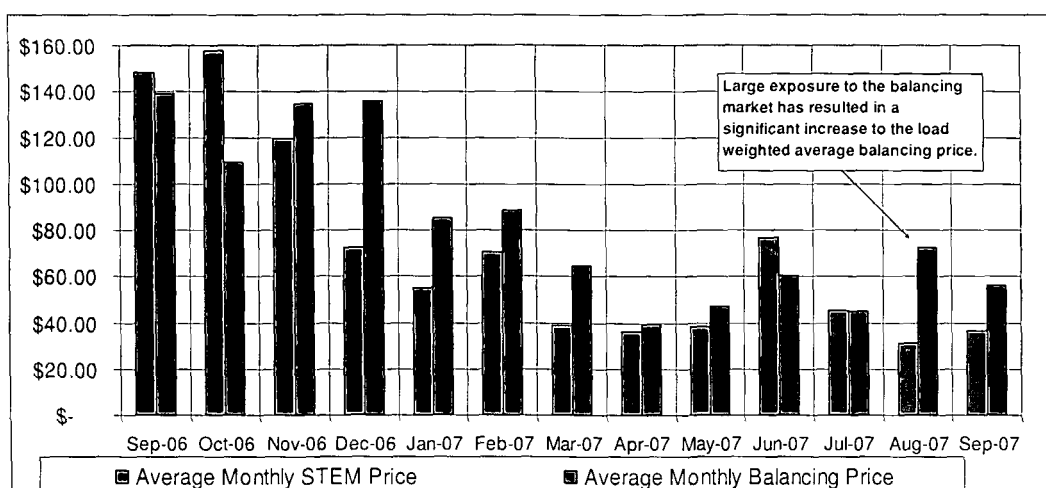


For the first seven months of market operation, balancing prices were, on average, recalculated higher than the STEM price, reflecting a general preference by customers to take exposure to balancing. However, from May to June 2007 this average balancing exposure reversed and customers, on average, spilt energy back into the balancing market.

For the September quarter of the 2007/08 financial year, the trend has reversed back to positive exposure once again. However, large price segments in the supply curve have resulted in less deviation from the STEM price.

Figure 13 below provides the load weighted monthly average STEM and balancing prices resulting since the commencement of the Market.

Figure 13: Load Weighted Average STEM and Balancing Prices



Note the significant increase in the load weighted average balancing price for August due to the significant exposure to the market at the end of the month where prices were generally high.

2.4. September Quarter Summary

STEM trades during the September quarter of the 2007/08 financial year were stronger than those in all previous quarters of the 2007 calendar year. STEM trades have shifted from predominantly peak period trades around the Market commencement time to trades that focus on off-peak periods (evident in the analysis of the September quarter). This is likely to be indicative of commercial incentives for Participants to trade during these lower priced times.

Net balancing trades fell off significantly during the last month of the September quarter as Participants entered bilateral positions that followed their actual demands closely. Balancing trades were high at the end of August due to the low bilateral positions submitted at this time. Average balancing exposure has evolved from negative exposure during the June quarter of the 2006/07 financial year, to positive exposure during the September quarter.

STEM and balancing prices during the end of July and beginning of August were significantly affected by fuel restrictions. Balancing prices were also affected by significant balancing market exposure at the end of August.

3. September Quarter KPI's

This section of the report provides notes the progress towards achieving the IMO KPIs for 2007/08, in the September quarter.

IMO Operational Effectiveness and Efficiency 2007/08

Measure	Expectation	Status	Monitoring	Outcome
Audit Certification of IMO Operations	Substantial Compliance	<ul style="list-style-type: none"> Clause 2.14 of the Market Rules places an obligation on the IMO to audit its operations and processes to ensure compliance with the Rules. This process was completed for the first time in September 2007. The independent auditor certified the IMO with some minor immaterial non-conformances, primarily in the area of report publication and settlement timeline issues. 	Annually	Achieved KPI
Market System Availability	> 80% of Time	<ul style="list-style-type: none"> This KPI acknowledges the non-24/7 operational nature of this market. The availability of the Market Systems in the three months of the September quarter was 97.93%. <ul style="list-style-type: none"> This includes both unscheduled and scheduled outages (including outages during the regular maintenance period between 5pm and 8pm). 	Quarterly	Achieved KPI
Unscheduled Market System Outages	< 2% of Time	<ul style="list-style-type: none"> Unscheduled outages accounted for 0.73% of time for the September quarter. <ul style="list-style-type: none"> This does not include outages that fell within the regular maintenance time or for which sufficient notice was given to Participants. 	Quarterly	Achieved KPI
Number of STEM Suspensions	< 6 Suspensions per annum	<ul style="list-style-type: none"> There were no market suspensions during the September quarter. 	Quarterly	Achieved KPI
Prompt Release of Market Incident Reports	< 20 Business days	<ul style="list-style-type: none"> To improve the transparency of market outcomes the IMO has undertaken to produce Market Incident Reports following significant market events. There were no market incidents in the September quarter. 	Quarterly	Achieved KPI

Late Settlement Statements	< 3 pa	<ul style="list-style-type: none"> The Market Rules place an obligation on the IMO to have initial run settlement statements published by a particular date. All other settlement timeline obligations (adjustments, invoice dates, allocation dates, etc) are set by the Settlement Cycle Timeline document. For the September quarter there were no late settlement statements. 	Quarterly	Achieved KPI
Year +2 Weather Corrected Demand Forecast Accuracy	< $\pm 1.5\%$	<ul style="list-style-type: none"> This KPI measures the IMO's 2 year forecast of the maximum demand for the 2007/08 financial year. This will be assessed post summer 2007/08. 	Annually	
Year +2 Energy Forecast Accuracy	< $\pm 2\%$	<ul style="list-style-type: none"> This KPI measures the IMO's 2 year forecast of the energy consumption for the 2007/08 financial year. This will be assessed post summer 2007/08. 	Annually	
Reserve Capacity Target Met	Achieved	<ul style="list-style-type: none"> The Reserve Capacity Target for the 2007/08 capacity year was met. 	Annually	Achieved KPI
Reserve Capacity Processes Timelines <ul style="list-style-type: none"> Statement of Opportunities Published Reserve Capacity Certified Reserve Capacity Auction Advice 	2 July 2007 3 August 2007 17 August 2007	<ul style="list-style-type: none"> All reserve capacity KPI timelines were met. 	Annually	Achieved KPI

IMO Market Development 2007/08

Measure	Expectation	Status	Monitoring	Outcome
Market Rule Changes Completed within Rule Timeframes <ul style="list-style-type: none"> IMO initiation of process time extensions 	≤ 10%	<ul style="list-style-type: none"> This KPI measures whether Market Rule and Procedure Changes are completed within the Rule timeframes by measuring IMO initiated time extensions. The performance expectation is that less than 10% of the Rule timelines will be extended. During the September quarter there were 20 prescribed Rule Change timelines. Of these, the IMO was only required to extend one (IRCR for new meters – RC_2007_11). 	Quarterly	Achieved KPI
Participant Satisfaction of Market Rule and Procedure Change Process	Average rating of "Good" or better	<ul style="list-style-type: none"> This KPI will be assessed post 2007/08. 	Annually	
Participant Satisfaction with the Quality of Rule and Procedure Change Reports	Average rating of "Good" or better	<ul style="list-style-type: none"> This KPI will be assessed post 2007/08. 	Annually	
Reviews of Market Parameters <ul style="list-style-type: none"> Price Caps Ancillary Services Loss Factors DSM 	Within timelines prescribed by the Market Rules	<ul style="list-style-type: none"> The Market Rules require these parameters to be reviewed annually. <ul style="list-style-type: none"> The Price Cap Review was completed by 29 August. The Ancillary Service Review was completed by 1 July. The Loss Factor Audit was carried out on time as required. The DSM information was published in the SOO meeting the Rule requirement. 	Annually	Achieved KPI
Market Development Reviews <ul style="list-style-type: none"> Reserve Capacity Forecasting Process Reliability Criteria Capacity Credit Refunds 	June 2007 June 2007 October 2007	<ul style="list-style-type: none"> The Reserve Capacity Forecasting Process Review has not yet been finalised. The Reliability Criteria Review has not yet been finalised. The Capacity Credit Refund Review is complete. 	Annually	Delayed

Customer and Stakeholder Satisfaction 2007/08

Measure	Expectation	Status	Monitoring	Outcome
Customer Satisfaction Feedback	Average rating of "Good" or better	<ul style="list-style-type: none"> This KPI will be assessed post 2007/08. 	Annually	
Education, Information and Training. <ul style="list-style-type: none"> Development of communication plan Adherence to communication plan Formal education and training Market information sessions and presentation Feedback regarding the website 	Achieved Achieved 4 pa 4 pa Average rating of "Good" or better	<ul style="list-style-type: none"> Internal plan has been developed. Regular meetings being held with all Market Participants. The IMO has developed a comprehensive operational training program, which was delivered three times during the September quarter. Feedback from participants in relation to this course has been good. The IMO has delivered presentations at two conferences / forums regarding the Wholesale Electricity Market. Feedback regarding the website has been generally good. 	Quarterly	Achieved KPI
Ministers Satisfaction Rating	Average rating of "Good" or better	<ul style="list-style-type: none"> This KPI will be assessed post 2007/08. 	Annually	

IMO Financial Responsibility 2007/08

Measure	Expectation	Status	Monitoring	Outcome
Expenditure Control	Expenditure \leq Allowable Revenue	<ul style="list-style-type: none"> This KPI will be assessed post 2007/08. 	Annually	
Capital Expenditure Control	Capital Expenditure \leq Plan	<ul style="list-style-type: none"> This KPI will be assessed post 2007/08. 	Annually	
Trend in Market Fees	IMO fees decline in real terms over time	<ul style="list-style-type: none"> The IMO fee rate increased by 4.9% from 2006/07 (\$0.307/MWh) to 2007/08 (\$0.322/MWh), an increase in real terms. The IMO notes that the market is only in its second year of operation. The IMO will endeavour to ensure that the trend over time in fees is downward. 	Annually	Not Achieved

INDEPENDENT MARKET OPERATOR

UPDATE ON IMO ACTIVITIES FOR THE REVIEW OF THE OPERATION OF THE WHOLESALE ELECTRICITY MARKET

The Independent Market Operator (IMO) would like to take this opportunity to advise the Authority of a number of activities that have been initiated since its submission to the ERA in response to the Discussion Paper on the Annual WEM Report to the Minister for Energy.

WEMS Test Environment

A number of the larger Market Participants have developed trading systems that interact directly with the Wholesale Electricity Market System (WEMS). The IMO is now developing a "Test Environment" in which Market Participants will be able to assess the interaction of their trading systems with the WEMS. This will allow the development of trading systems to be undertaken off-line rather than on the operational system.

It is anticipated that Market Participants will be able to use the new facility from late November 2007.

Settlement Bulletins

As was noted in the IMO's earlier Submission to the ERA, the WEMS settlement processes are relatively complex. One particular issue is that due to the highly interactive nature of the various settlement products, changes to the invoice amounts of one Market Participant, may cause changes to invoice amounts to a large number of others. In this situation, Market Participants may be confused as to why their previously invoiced amounts are changing.

To assist Market Participants' understanding, the IMO is now publishing regular Settlement Bulletins which provide information regarding factors that have led to changes in invoice amounts. While some of this information must necessarily be at a high level, to maintain confidentiality, these bulletins do provide greater transparency to the settlement processes. The IMO continues to provide and offer Market Participants the opportunity to directly discuss their settlement statements in detail.

Market Training and Education

The IMO has developed a highly interactive two-day operational training course that explores many of the complex facets of the Wholesale Electricity Market. This course has been designed to provide attendees with a knowledge base that will allow them to interact with the Market in an effective manner.

The course has now been given on four separate occasions, with a fifth course due to be run in late November. In general, feedback from industry representatives that have attended the course have been excellent. Demand for the course has increased significantly since its inception.

Market System Improvements

The IMO has embarked upon a major IT structural project to improve the availability of its market systems. In the past, system availability issues have arisen due to the large number of processes running on a single database. Subsequently, the IMO has undertaken to separate these processes on to two separate databases, with the Market running on one, and the settlement and metering processes running on the other. It is widely expected that this will improve system availability considerably.

In addition to this, the IMO has widened the scope of the Market IT Strategy Group (previously the Change Management Working Group) to include all aspects of IMO IT systems that affect Participants. This group now convenes to discuss a broad variety of issues such as the Participant test system, market software version releases, system availability, system security, etc.

The IMO is committed to further general improvements to market systems to meet the requirements of the Market in general, where these improvements are efficient from a cost benefit perspective. The Market IT Strategy Group will be the vehicle for driving the improvements into the future.

November 2007