

# WEEKLY MARKET ANALYSIS



AUSTRALIAN ENERGY  
REGULATOR

21 – 27 September 2008

## Summary

Spot prices on the mainland averaged between \$35/MWh in South Australia and Queensland, and \$43/MWh in Victoria. A reduction in the availability of low priced capacity led to higher average prices across the NEM, compared to the previous week.

On Wednesday afternoon, an unplanned outage of the Basslink interconnector for 90 minutes resulted in increased costs in Tasmania. The energy spot price spiked to \$2162/MWh and the cost of lower frequency control ancillary services – paid for by customers - increased by \$350 000. The average spot price in Tasmania for the week was \$42/MWh.

In the financial markets contract prices were slightly higher compared to the previous week.

## Spot market prices

Figure 1 sets out the volume weighted average prices for this week and the financial year to date across the NEM. It compares these prices with price outcomes from the previous week and year to date respectively.

**Figure 1: Volume weighted average spot price by region (\$/MWh)**

	Qld	NSW	VIC	SA	Tas
Ave price for 21 – 27 September	35	39	43	35	42
Financial year to 27 September	37	42	43	43	45
% change from previous week*	6%	24%	26%	24%	-3%
% change from year to date**	-35%	-31%	-30%	-31%	-32%

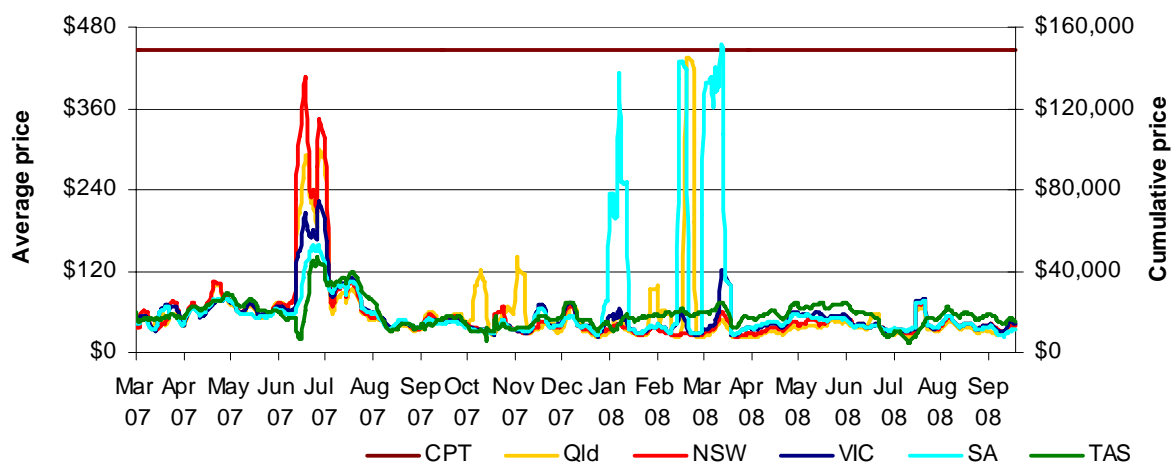
\*The percentage change between last week's average spot price and the average price for the previous week.

\*\*The percentage change between the average spot price for the current financial year to date and the average spot price over the similar period for the previous financial year

The AER provides further information if the spot price exceeds three times the weekly average. Details of these events are attached in Appendix A. Longer term market trends are attached in Appendix B.

Figure 2 shows the seven day rolling cumulative price for each region together with the CPT (and the equivalent seven day time-weighted average price) for the last 18 months.

**Figure 2: Seven day rolling cumulative price and CPT**



## Financial markets

Figures 3 to 10 show futures contract<sup>1</sup> prices traded on the Sydney Futures Exchange as at close of trade on Monday 29 September. Figure 3 shows the financial year base futures contract prices for the current year, the following two years, and the three year average. Also shown are percentage changes compared to a week earlier.

**Figure 3: Base financial year futures contract prices (\$/MWh)**

	QLD		NSW		VIC		SA	
Financial 2008-09	50	1%	49	-1%	51	0%	54	0%
Financial 2009-10	57	6%	51	3%	62	0%	55	0%
Financial 2010-11	48	4%	45	0%	54	0%	45	6%
Three year average	52	4%	48	1%	56	0%	51	3%

Source: d-cyphaTrade www.d-cyphatrade.com.au

Figure 4 shows the \$300 cap contract price for the first quarter of 2009 and the 2009 calendar year and the change from the previous week.

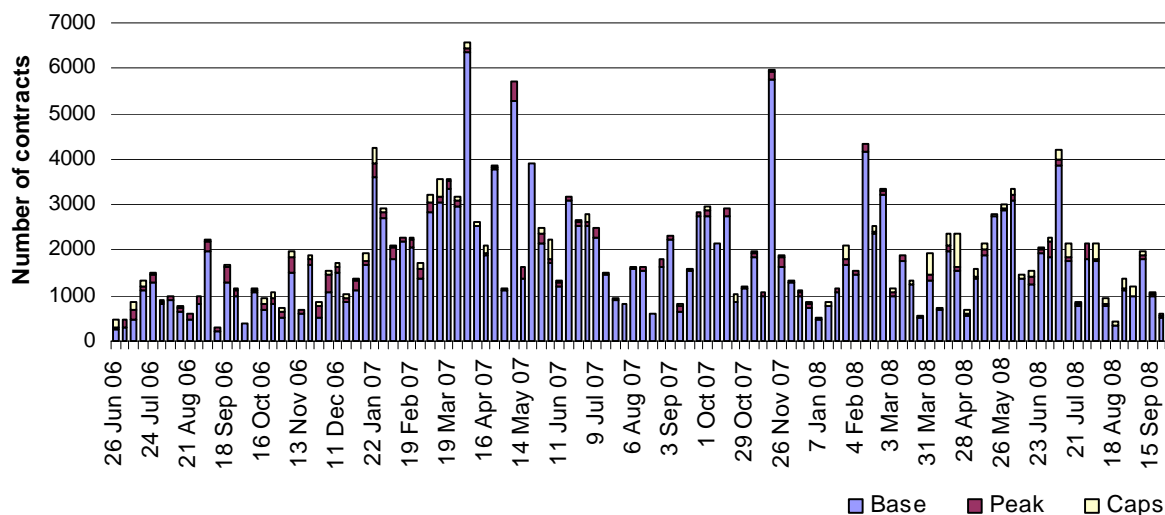
**Figure 4: \$300 cap contract prices (\$/MWh)**

	QLD		NSW		VIC		SA	
Q1 2009 price	43	2%	21	0%	27	-4%	65	0%
Calendar 2009	16	1%	11	1%	12	-3%	21	0%

Source: d-cyphaTrade www.d-cyphatrade.com.au

Figure 5 shows the weekly trading volumes for base, peak and cap contracts, the date represents the end of the trading week.

**Figure 5: Number of exchange traded contracts per week**

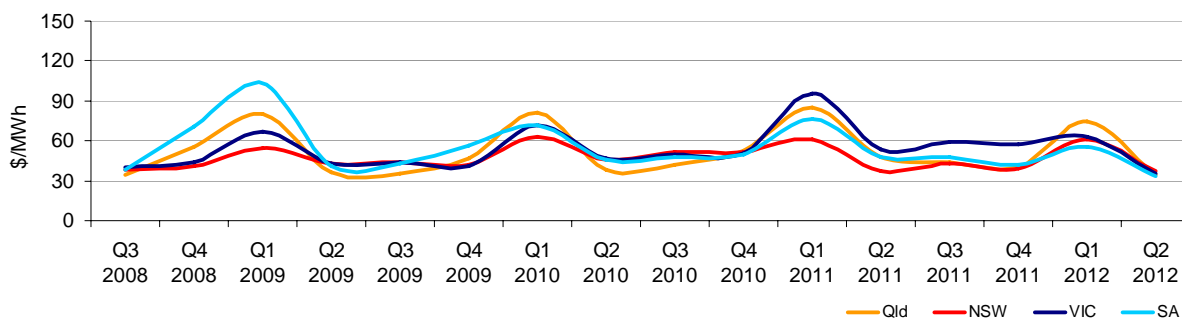


Source: d-cyphaTrade www.d-cyphatrade.com.au

<sup>1</sup> Futures contracts on the SFE are listed by d-cyphaTrade (www.d-cyphatrade.com.au). A futures contract is typically for one MW of electrical energy per hour based on a fixed load profile. A base load profile is defined as the base load period from midnight to midnight Monday to Sunday over the duration of the contract quarter. A peak load profile is defined as the peak-period from 7 am to 10 pm Monday to Friday (excluding Public holidays) over the duration of the contract quarter.

Figure 6 shows the prices for base contracts for each quarter for the next four years.

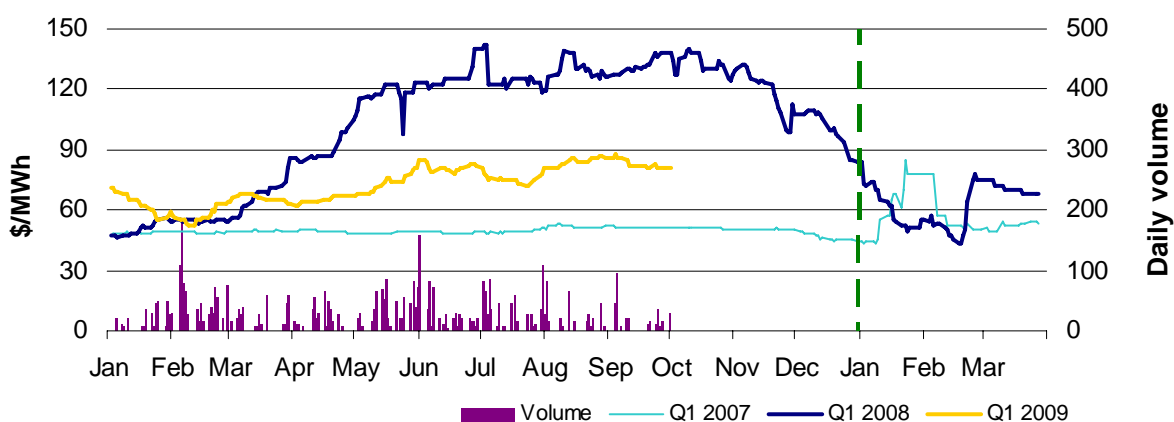
**Figure 6: Quarterly base future prices 2008 - 2012**



Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

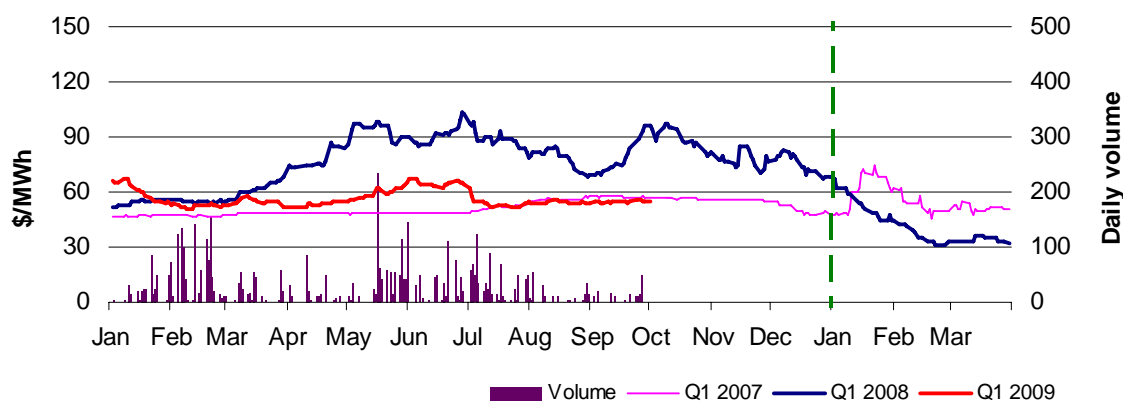
Figures 7-10 compares for each region the closing daily base contract price for the first quarter of 2007, 2008 and 2009. Also shown is the daily volume of Q1 09 base contracts traded. The vertical dashed line signifies the start of the Q1 period.

**Figure 7: Queensland Q1 2007, 2008 and 2009**



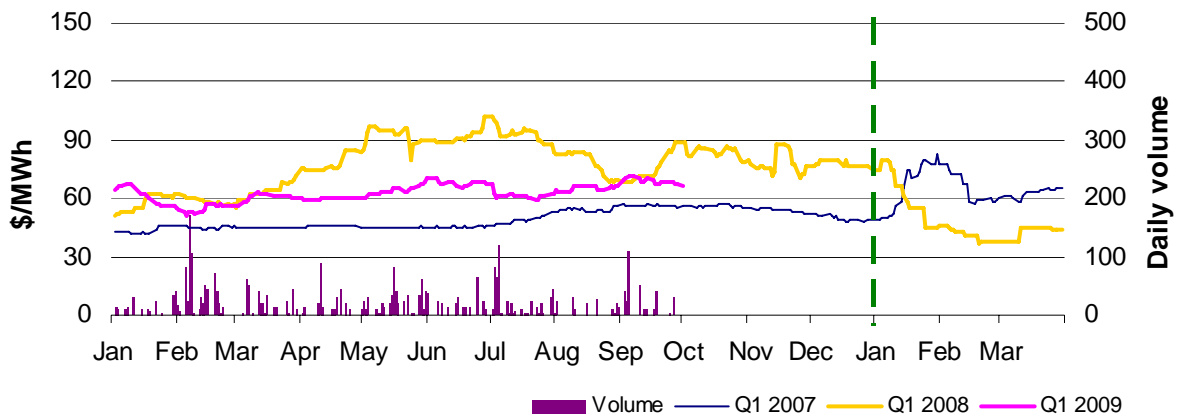
Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

**Figure 8: New South Wales Q1 2007, 2008 and 2009**



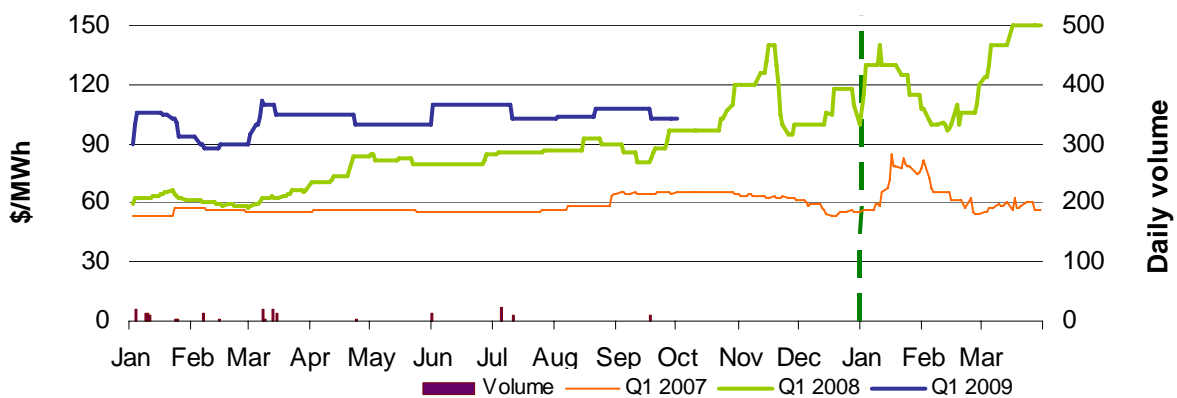
Source: d-cyphaTrade [www.d-cyphatrade.com.au](http://www.d-cyphatrade.com.au)

**Figure 9: Victoria Q1 2007, 2008 and 2009**



Source: d-cyphaTrade www.d-cyphatrade.com.au

**Figure 10: South Australia Q1 2007, 2008 and 2009**



Source: d-cyphaTrade www.d-cyphatrade.com.au

### Spot market forecasting variations

The AER is required by the National Electricity Rules to determine whether there is a significant variation between the forecast spot price published by NEMMCO and the actual spot price and state why the AER considers that the significant price variation occurred. It is not unusual for there to be significant variations as demand forecasts vary and as participants react to changing market conditions. There were 218 trading intervals where actual prices significantly varied from forecasts<sup>2</sup> throughout the week. This compares to the weekly average in 2007 of 125 counts. Reasons for these variances are summarised in Figure 11<sup>3</sup>.

**Figure 11: Reasons for variations between forecast and actual prices**

	Availability	Demand	Network	Combination
Price is higher than forecast	8%	47%	1%	1%
Price is lower than forecast	39%	4%	0%	1%

<sup>2</sup> A trading interval is counted as having a variation if the actual price differs significantly from the forecast price either four or twelve hours ahead.

<sup>3</sup> The table summarises (as a percentage) the number of times when the actual price differs significantly from the forecast price four or twelve hours ahead and the major reason for that variation. The reasons are classified as availability (which means that there is a change in the total quantity or price offered for generation), demand forecast inaccuracy, changes to network capability or as a combination of factors (when there is not one dominant reason). An instance where both twelve and four hour ahead forecasts differ significantly from the actual price will be counted as two variations.

## Demand and bidding patterns

The AER reviews demand, network limitations and generator bidding as part of its market monitoring to better understand the drivers behind price variations. Figure 12 shows changes to the offer price and available capacity of generation in each region for the on-peak periods only<sup>4</sup>. For example, in Queensland 288 MW greater capacity was offered at prices less than \$20/MWh this week compared to the previous week. Also included is the change in average demand during peak periods for comparison.

**Figure 12: Changes in available generation compared to the previous week during peak times**

\$/MWh	<20	Between 20 and 50	Total availability	Change in average demand
Queensland	288	117	556	20
New South Wales	-467	158	-276	-57
Victoria	-334	-87	-620	-231
South Australia	-47	18	16	-5
Tasmania	238	-2	-33	-19
Total	-323	205	-357	-292

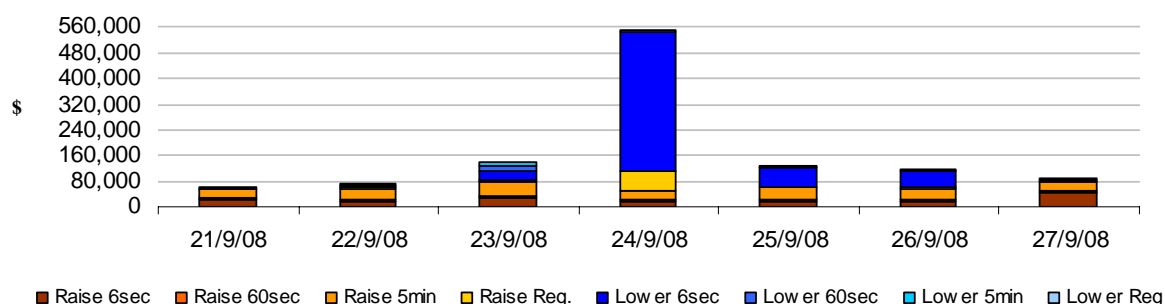
## Ancillary services market

The total cost of ancillary services on the mainland for the week was \$385 000 or less than one per cent of turnover in the energy market.

The total cost of ancillary services in Tasmania for the week was \$774 000 or nine per cent of turnover in the energy market in Tasmania. More than \$350 000 of this occurred during an unplanned outage of the Basslink interconnector at 4.54 pm on Wednesday 24 September. This led to an increased requirement for locally sourced ancillary services. There were insufficient lower 6 second services for the first two dispatch intervals following loss of the interconnector – the price for this service was \$10 000/MW for three dispatch intervals.

Figure 13 shows the daily breakdown of cost for each frequency control ancillary service.

**Figure 13: Daily frequency control ancillary service cost**



## Australian Energy Regulator October 2008

<sup>4</sup> Peak period is defined as between 7 am and 10 pm on weekdays, which aligns with the SFE contract definition.

# Appendix A:

## Detailed Market Analysis



21 – 27 September 2008

**National:** There were 13 occasions where the spot price aligned nationally and the New South Wales price was greater than three times the New South Wales weekly average price of \$39/MWh. The New South Wales spot price has been used as a proxy national price under these conditions as New South Wales is located in the centre of the NEM.

### Monday, 22 September

<b>11:30 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	118.68	47.25	107.46
Demand (MW)	25 873	24 862	25 466
Available capacity (MW)	31 889	32 593	32 576
<b>12:00 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	123.33	49.42	105.51
Demand (MW)	25 992	24 820	25 416
Available capacity (MW)	31 996	32 605	32 572
<b>12:30 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	123.61	45.63	87.08
Demand (MW)	26 138	24 772	25 379
Available capacity (MW)	32 404	32 603	32 571
<b>1:00 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	124.87	44.27	47.43
Demand (MW)	26 337	24 697	24 630
Available capacity (MW)	32 367	32 462	32 569
<b>1:30 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	128.88	42.78	51.55
Demand (MW)	26 388	24 767	24 674
Available capacity (MW)	32 400	32 442	32 569
<b>2:00 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	119.49	39.63	48.08
Demand (MW)	26 289	24 692	24 659
Available capacity (MW)	32 438	32 529	32 605
<b>3:00 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	120.86	41.71	41.79
Demand (MW)	26 103	24 688	24 588
Available capacity (MW)	32 492	32 514	33 100
<b>4:30 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	120.97	47.84	35.00
Demand (MW)	26 249	25 087	24 486
Available capacity (MW)	31 962	32 512	33 273

## Monday, 22 September (cont)

<b>5:00 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	118.92	39.01	34.21
Demand (MW)	26 379	25 043	24 485
Available capacity (MW)	31 979	32 603	33 277
<b>5:30 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	120.87	44.97	35.00
Demand (MW)	26 474	25 289	24 674
Available capacity (MW)	31 999	32 646	33 239
<b>6:00 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	129.63	44.40	35.00
Demand (MW)	26 913	25 807	25 072
Available capacity (MW)	32 003	32 591	33 251
<b>6:30 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	140.38	111.85	57.99
Demand (MW)	27 107	26 791	25 811
Available capacity (MW)	32 004	32 500	33 279
<b>7:00 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	128.09	119.97	72.27
Demand (MW)	27 158	27 160	26 070
Available capacity (MW)	32 007	32 538	33 259

Conditions at the time saw demand up to 1600 MW greater than forecast four hours ahead. Available capacity was up to 700 MW lower than forecast four hours ahead.

From 8.29 am, over several rebids, Delta Electricity shifted 390 MW of capacity across its portfolio from prices below \$40/MWh to above \$290/MWh. The reasons given were “NEMMCO forecast load change:Band shift” and “Demand higher than forecast:Band shift”.

At 9.40 am, Tarong Energy reduced its availability at Tarong North by 443 MW, all of which was priced below \$15/MWh. The reason given was “Tarong North Turbine issues :: adjust availability”.

At 3.49 pm LYMMCO rebid its Loy Yang A unit three unavailable – a reduction of 580 MW of capacity priced below \$15/MWh. The reason given was “Unit trip at 15:59”. The unit returned to service at 8.30 pm the following day.

From 5.17 pm, over several rebids, Stanwell Corporations shifted 345 MW of capacity across its portfolio from prices below \$50/MWh to prices above \$220/MWh. The reasons given were “Price materially greater than predis:Change MW Distrib” and “Manage Transmission constraint:: Change MW Distrib”.

There is no other significant rebidding.

**Tasmania:** There were two occasions where the spot price in Tasmania was greater than three times the Tasmania weekly average price of \$42/MWh.

### Wednesday, 24 September

<b>5:30 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	2161.53	34.90	36.96
Demand (MW)	1226	1242	1253
Available capacity (MW)	1856	1890	1890
<b>6:30 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	141.13	37.43	40.29
Demand (MW)	1340	1342	1369
Available capacity (MW)	1856	1890	1890

Conditions at the time saw demand and available capacity close to that forecast.

On Wednesday at 4.54 pm, there was an unplanned outage of the Basslink interconnector. A network outage constraint was invoked at 5.05 pm to manage this outage, which also led to increased requirements for frequency control ancillary services. The interaction between the ancillary services and energy markets led to high energy dispatch prices for the 5.05 pm to 5.15 pm dispatch intervals inclusive, peaking at \$8012/MWh at 5.05 pm. Basslink returned to service at 6.23 pm.

There was no significant rebidding.



# Appendix B Detailed NEM Price and Demand Trends



**Table 1: Financial year to date spot market volume weighted average price**

Financial year	QLD	NSW	VIC	SA	TAS
2008-09 (\$/MWh) YTD	37	42	43	43	45
2007-08 (\$/MWh) YTD	57	60	61	62	66
Change	-35%	-31%	-30%	-32%	-32%
2007-08 (\$/MWh)	58	44	51	101	57

**Table 2: NEM turnover**

Financial year	NEM Turnover* (\$, billion)	Energy (TWh)
2008-09 YTD	\$2.2	53
2007-08	\$11.1	208
2006-07	\$12.7	206
Change (2006-07 to 2007-08)	-12%	0.8%

\* estimated value

**Table 3: Recent monthly and quarterly spot market volume weighted average price and turnover**

Volume weighted average (\$/MWh)	QLD	NSW	SNOWY	VIC	SA	TAS	Turnover (\$, billion)
May-08	41	47	36	56	53	68	0.87
Jun-08	43	44	28	44	42	57	0.77
Jul-08	40	44	-	46	48	31	0.82
Aug-08	37	42	-	42	44	56	0.79
Sep-08	32	38	-	39	34	49	0.57
Q2 2007	119	146	-	99	83	74	3.26
Q2 2008	38	42	-	47	46	61	3.36
Change	-68%	-71%	-	-52%	-44%	-18%	

**Table 4: ASX energy futures contract prices at 29 September**

	QLD		NSW		VIC		SA	
	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Q1 2009								
Price on 22 Sep (\$/MW)	36	46	43	59	43	59	42	62
Price on 29 Sep (\$/MW)	36	46	43	59	43	61	42	62
Open interest on 29 Sep	2289	130	2180	171	1717	442	145	0
Traded in the last week (MW)	85	10	75	15	35	10	0	0
Traded since 1 Jan 08	4688	377	4857	215	3398	662	215	0
Settled price for Q1 08(\$/MW)	68	97	32	42	43	65	152	322

**Table 5: Changes to availability of low priced generation capacity offered to the market**

Comparison:	QLD	NSW	SNOWY*	VIC	SA	TAS	NEM
July 08 with July 07							
MW Priced <\$20	486	904	-	36	46	541	2013
MW Priced \$20 to \$50	408	-744	-	292	166	119	242
August 08 with August 07							
MW Priced <\$20	138	668	-	116	168	-248	841
MW Priced \$20 to \$50	511	-844	-	275	79	51	72
September 08 with September 07							
MW Priced <\$20	911	700	-	-87	143	128	1794
MW Priced \$20 to \$50	197	-408	-	181	185	43	198

\*For comparative purposes Snowy generation for July 2007 and 2008 has been incorporated into New South Wales and Victoria