WEEKLY MARKET ANALYSIS

AUSTRALIAN ENERGY REGULATOR

31 May-06 June 2009

Summary

Average spot prices for the mainland regions ranged from $28/MWh in Queensland to $42/MWh in South Australia.

The average spot price in Tasmania was $92/MWh, almost three-times higher than the previous week. This was due to a number of high spot prices during the week, including one spot price of $9159/MWh. In accordance with the requirements of the National Electricity Rules (Electricity Rules), the AER will issue a report into the circumstances that led to the energy price exceeding $5000/MWh.

Spot market prices

Figure 1 sets out the volume weighted average prices for 31 May to 6 June and the financial year to date across the National Electricity Market (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)

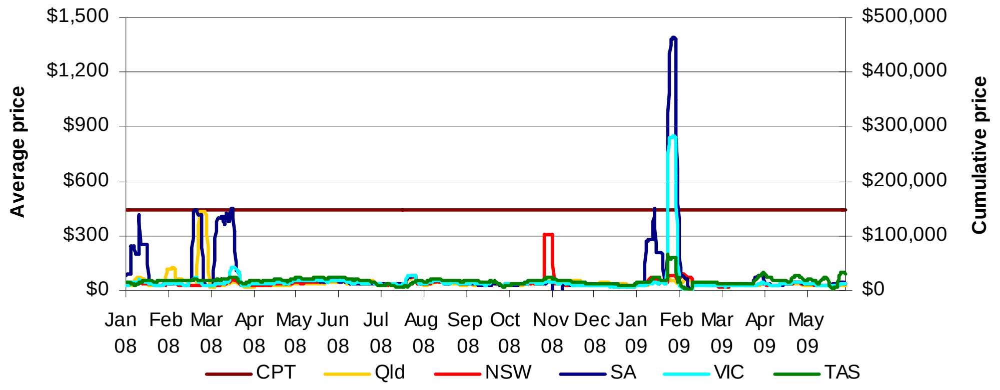
	Qld	NSW	VIC	SA	Tas
Average price for 31 May – 06 June	28	36	38	42	92
Financial year to date	36	43	51	71	50
% change from previous week*	12	17	33	8	298
% change from year to date**	-38	-4	-2	-33	-12

*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. This is detailed 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 Cumulative Price Threshold (CPT) (and the equivalent seven day time weighted average price).

Figure 2: Seven day rolling cumulative price and CPT



Financial markets

Figures 3 to 10 show futures contract[1] prices traded on the Sydney Futures Exchange (SFE) as at close of trade on Monday 8 June. Figure 3 shows the base futures contract prices for the next three calendar years, and the three year average. Also shown are percentage changes compared to the previous week.

Figure 3: Base calendar year futures contract prices ($/MWh)

	QLD		NSW		VIC		SA	
Calendar Year 2010	43*	-1%	46*	0%	48	0%	59	0%
Calendar Year 2011	46	-1%	49	-2%	51	0%	69	0%
Calendar Year 2012	58	-6%	61	0%	69	0%	69	0%
Three year average	49	-3%	52	-1%	56	0%	66	0%

Source: d-cyphaTrade www.d-cyphatrade.com.au
* there were trades in these products but not in others.

Figure 4 shows the $300 cap contract price for the first quarter of 2010 and the 2009-10 financial year and the percentage change from the previous week.

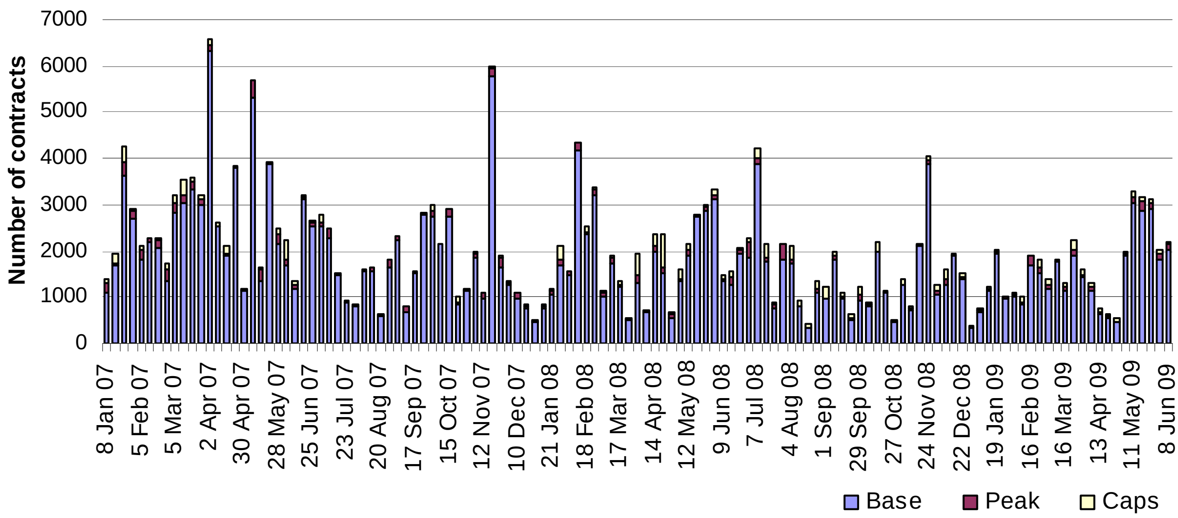
Figure 4: $300 cap contract prices ($/MWh)

	QLD		NSW		VIC		SA	
Q1 2010	27	0%	21	0%	35	0%	45	0%
Financial 2009-10	11	0%	10	0%	11	0%	16	0%

Source: d-cyphaTrade www.d-cyphatrade.com.au
Note: there were no trades in these products.

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

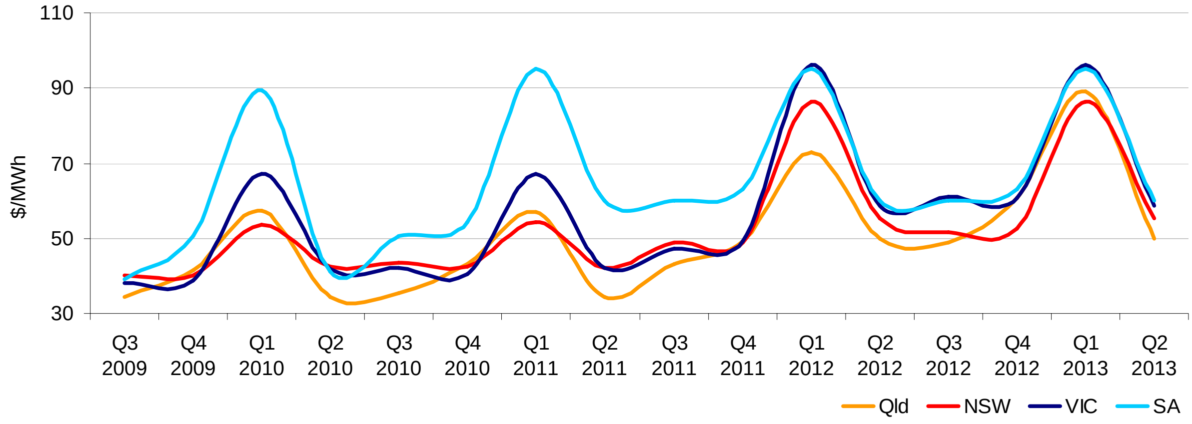


Source: d-cyphaTrade www.d-cyphatrade.com.au

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

[1] 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.

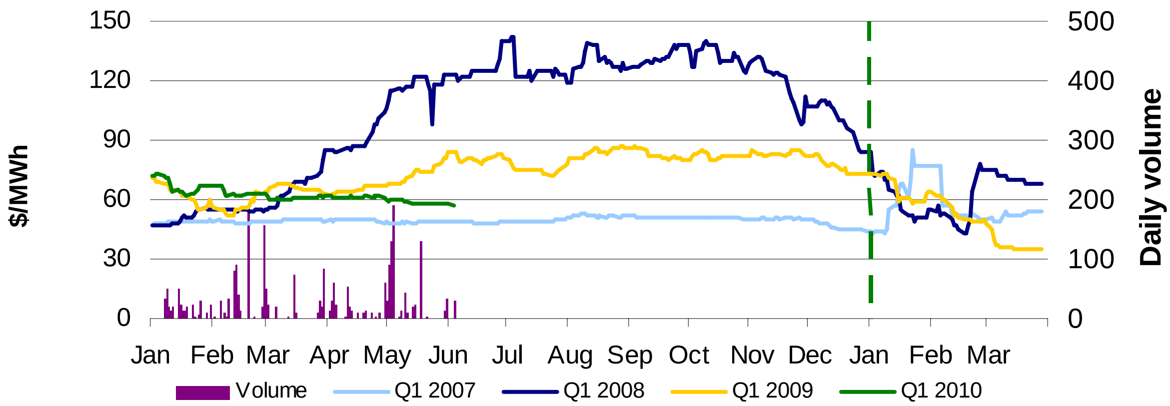
Figure 6: Quarterly base future prices Q3 2009 – Q2 2013



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

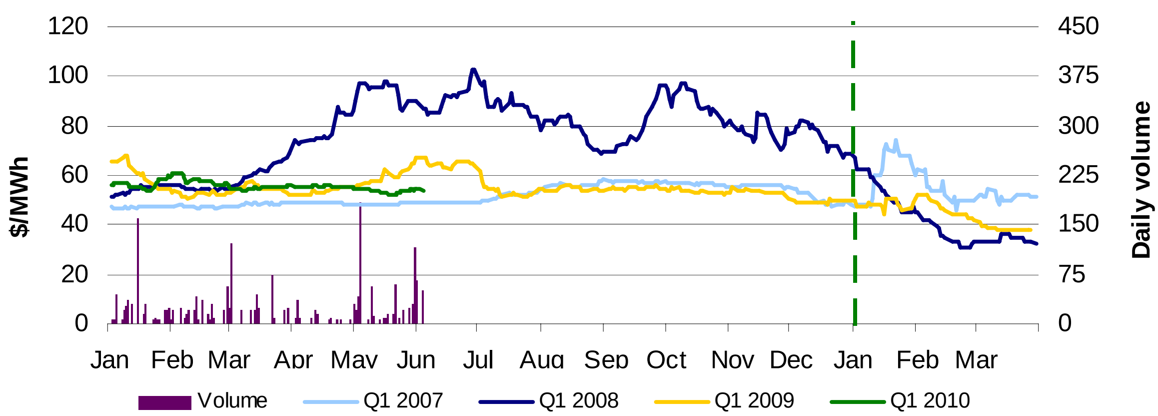
Figures 7-10 compare for each region the closing daily base contract prices for the first quarter of 2007, 2008, 2009 and 2010. Also shown is the daily volume of Q1 2010 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased.

Figure 7: Queensland Q1 2007, 2008, 2009 and 2010



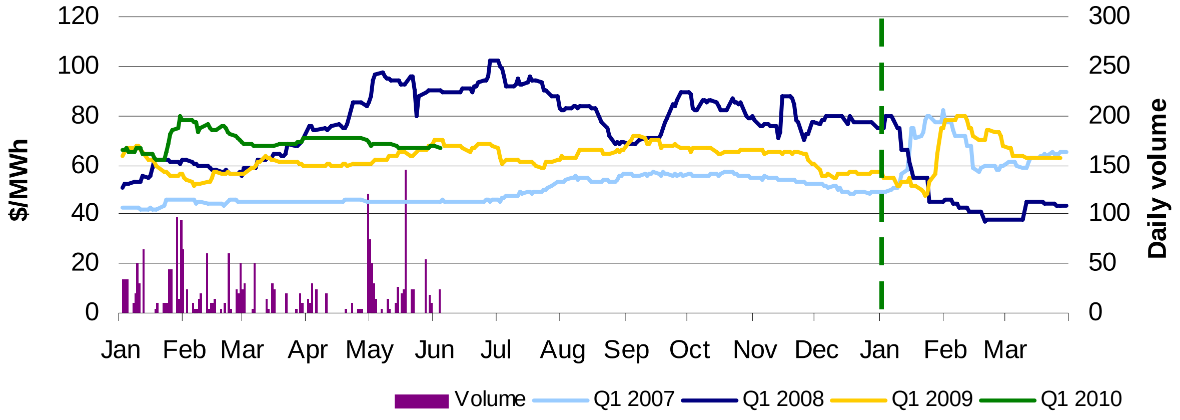
Source: d-cyphaTrade www.d-cyphatrade.com.au

Figure 8: New South Wales Q1 2007, 2008, 2009 and 2010



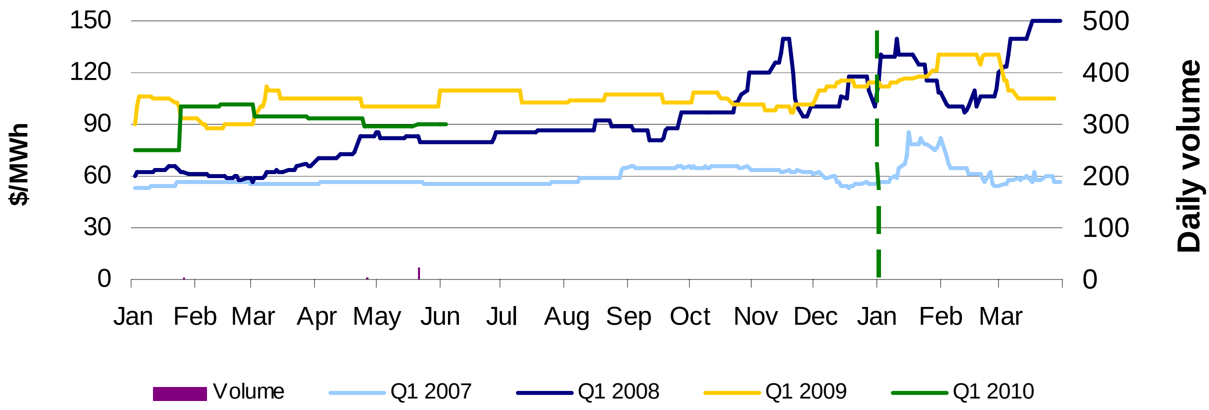
Source: d-cyphaTrade www.d-cyphatrade.com.au

Figure 9: Victoria Q1 2007, 2008, 2009 and 2010



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

Figure 10: South Australia Q1 2007, 2008, 2009 and 2010



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

Spot market forecasting variations

The AER is required under the National Electricity Rules to determine whether there is a significant variation between the forecast spot price published by the National Electricity Market Management Company, the actual spot price and, if there is a variation, state why the AER considers 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 157 trading intervals throughout the week where actual prices varied significantly from forecasts[2]. This compares to the weekly average in 2008 of 130 counts. Reasons for these variances are summarised in Figure 11[3].

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2 A trading interval is counted as having a variation if the actual price differs significantly from the forecast price either four or 12 hours ahead.

3 The table summarises (as a percentage) the number of times when the actual price differs significantly from the forecast price four or 12 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 four and 12 hour ahead forecasts differ significantly from the actual price will be counted as two variations.

Figure 11: Reasons for variations between forecast and actual prices

	Availability	Demand	Network	Combination
% of total above forecast	2	32	1	2
% of total below forecast	55	7	0	1

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 the change in total available capacity in each region from the previous week and at the price levels shown, for peak periods[4]. For example, in Queensland 182 MW more capacity was offered at prices under $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 and average demand compared to the previous week during peak periods

MW	<$20/MWh	Between $20 and $50/MWh	Total availability	Change in average demand
Qld	182	-8	345	68
NSW	-263	311	454	321
VIC	-489	331	-296	125
SA	78	45	70	74
TAS	-216	126	-63	28
TOTAL	-708	805	510	616

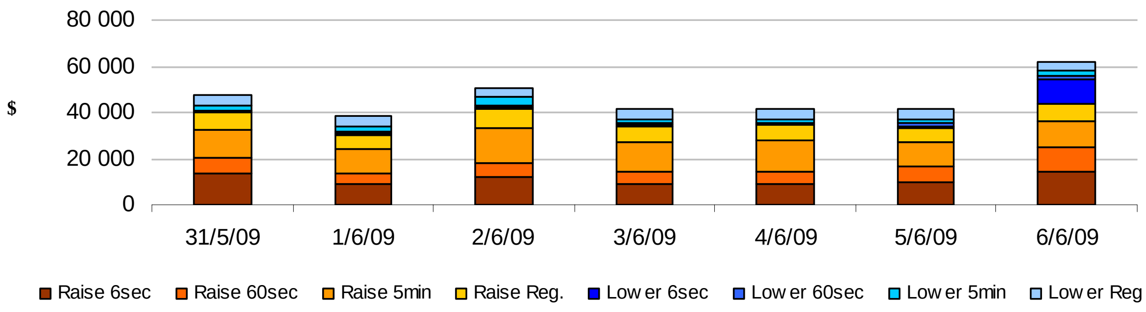
Ancillary services market

The total cost of frequency control ancillary services (FCAS) on the mainland for the week was $233 000 or less than one per cent of turnover in the energy market.

The total cost of FCAS in Tasmania for the week was $90 000 or less than one per cent of turnover in the energy market.

Figure 13 shows the daily breakdown of cost for each FCAS for the NEM.

Figure 13: Daily frequency control ancillary service cost



Australian Energy Regulator

June 2009

[4] A peak period is defined as between 7 am and 10 pm on weekdays, which aligns with the SFE contract definition.

31 May - 06 June 2009

National: There were three 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 $36/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, 1 June

6:00 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	119.98	119.99	88.00
Demand (MW)	30 027	29 532	28 980
Available capacity (MW)	35 489	35 890	36 876
6:30 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	111.82	326.63	111.27
Demand (MW)	29 895	29 360	29 007
Available capacity (MW)	35 644	35 887	36 873

Conditions at the time saw demand up to 535 MW greater than that forecast four hours ahead and up to approximately 1150 MW higher than that forecast 12 hours ahead. Available capacity was up to 400 MW less that forecast four hours ahead and around 1400 MW less than forecast 12 hours ahead.

Due to technical limitations, several New South Wales generators rebid to reduce available capacity.

Over numerous rebids from 1.32 pm, Ecogen rebid around 400 MW of capacity across its portfolio from prices above $260/MWh to below $55/MWh. The reasons given included “Band Adj due to 5 min PD conditions” and “Band adjust due to under-utilised capacity”.

Over two rebids at 2.22 pm and 3.06 pm, Origin Energy rebid 664 MW of capacity across its Uranquinty units from prices above $9300/MWh to prices below $60/MWh. The reasons given were “EST (P) Change in availability” and “EST (N) change in PDS”.

At 5.28 pm, Snowy Hydro rebid 350 MW of capacity across its portfolio, from prices above $290/MWh to below $119/MWh. The reason given was “NSW DEM HGHR THN PRV PD: BNDSHFT DN”.

There was no other significant rebidding.

Tuesday, 2 June

6:00 pm	Actual	4 hr forecast	12 hr forecast
Price ($/MWh)	118.60	83.32	121.55
Demand (MW)	29 494	29 262	29 446
Available capacity (MW)	35 656	35 870	35 770

Conditions at the time saw demand around 230 MW greater than that forecast four hours ahead and available capacity around 200 MW lower than that forecast four hours ahead.

Over two rebids at 3.11 pm and 5.05 pm, Snowy Hydro rebid around 390 MW of capacity across its Upper Tumut and Guthega units from prices below around $118/MWh to above $290/MWh. The reasons given were “M:Demand lwr thn prev fcst::realloc gen/bndshft” and M:VIC-NSW flw lwr thn exptd:realloc gen”.

At 4.31 pm, the TRU Energy’s Tallawara unit tripped, reducing available capacity by 430 MW (all of which was priced less than $25/MWh). The unit returned to service on 8 June.

There was no other significant rebidding.

NEMMCO has published a “Dispatch Anomaly” report that has identified a number of dispatch intervals between 7 am and 4.25 pm on 2 June 2009 as affected by a dispatch anomaly. A constraint equation, which was invoked to manage the outage of the Murray-Upper Tumut line, bound in dispatch and caused negative settlement residues to accumulate on the New South Wales to Victoria interconnector. NEMMCO found that critical terms had been omitted in the formulation of the constraint equation. This affected the dispatch outcomes of 41 dispatch intervals on that day.

Queensland: There were four occasions where the spot price in Queensland was greater than three times the Queensland weekly average price of $28/MWh. Three of these occurred when prices were generally aligned across all regions and are detailed in the national market outcomes section. The other high price is presented below.

Thursday, 4 June

6:00 pm	Actual	4 hr forecast	12 hr forecast
Price ($/MWh)	86.38	79.63	94.33
Demand (MW)	7173	7249	7206
Available capacity (MW)	9721	10 150	10 136

Conditions at the time saw demand slightly lower than forecast and price close to forecast. Available capacity was around 430 MW lower than that forecast four hours ahead.

At 3.23 pm ERM Power 2 reduced its available capacity at Braemar unit six by 165 MW (all of which was priced above $9600/MWh). The reason given was “Plant commissioning:: change availability”.

Over two rebids at 4.57 pm and 5.37 pm, Tarong Energy Corporation reduced the available capacity at Tarong North by 303 MW (all of which was priced below $15/MWh). The reason given was “Revised unit run up profile::adjust availability”.

There was no other significant rebidding.

Victoria: There were three occasions where the spot price in Victoria was greater than three times the Victoria weekly average price of $38/MWh. Two of these occurred when prices were generally aligned across all regions and are detailed in the national market outcomes section. The other high price is presented below.

Tuesday, 2 June

9:30 am	Actual	4 hr forecast	12 hr forecast
Price ($/MWh)	122.17	53.08	57.87
Demand (MW)	7115	6876	6944
Available capacity (MW)	8462	8441	8436

Conditions at the time saw demand around 240 MW greater than that forecast four hours ahead and available capacity close to forecast.

NEMMCO has published a “Dispatch Anomaly” report that has identified a number of dispatch intervals between 7 am and 4.25 pm on 2 June 2009 as affected by a dispatch anomaly. A constraint equation, which was invoked to manage the outage of the Murray-Upper Tumut line, bound in dispatch and caused negative settlement residues to accumulate on the New South Wales to Victoria interconnector. NEMMCO found that critical terms had been omitted in the formulation of the constraint equation. This affected the dispatch outcomes of 41 dispatch intervals on that day.

Over two rebids at 9.11 am and 9.12 am, effective from 9.20 am, Ecogen rebid 110 MW of available capacity at Jeeralang units one and three from prices above $7000/MWh to below $5/MWh. The reason given was “Adj to unit commitment due to plant conditions”.

At 9.12 am, effective from 9.20 am, Snowy rebid 340 MW of available capacity at Murray from prices above $500/MWh to below $30/MWh. The reason given was “Price higher thn prev fcst:bnd shft dn”.

There was no other significant rebidding.

South Australia: There were two occasions where the spot price in South Australia was greater than three times the South Australia weekly average price of $42/MWh. One of these occurred when prices were generally aligned across all regions and is detailed in the national market outcomes section. The other high price is explained below.

Tuesday, 2 June

9:30 am	Actual	4 hr forecast	12 hr forecast
Price ($/MWh)	191.98	92.65	86.91
Demand (MW)	1847	1856	1836
Available capacity (MW)	2445	2408	2387

Conditions at the time were following those in Victoria.

There was no significant rebidding.

Tasmania: There were 17 occasions where the spot price in Tasmania was greater than three times the Tasmania weekly average price of $92/MWh.

Sunday, 31 May

10:30 am	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	365.95	41.18	41.18
Demand (MW)	1274	1214	1208
Available capacity (MW)	2134	2148	2148

Conditions at the time saw demand 60 MW higher than that forecast four hours ahead and available capacity close to forecast.

As there was only a small amount of capacity priced between $41/MWh and $475/MWh, small changes in demand or the import limit into Tasmania had significant impacts on actual prices.

There was no significant rebidding.

Sunday, 31 May

6:30 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	499.20	499.14	499.14
Demand (MW)	1372	1357	1348
Available capacity (MW)	2148	2148	2148
8:30 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	465.91	499.18	67.18
Demand (MW)	1351	1361	1276
Available capacity (MW)	2148	2148	2148
9:30 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	399.28	499.28	41.20
Demand (MW)	1306	1303	1198
Available capacity (MW)	2148	2148	2148

Conditions at the time saw demand, available capacity and prices close to or lower than that forecast four hours ahead.

There was no significant rebidding.

Monday, 1 June

9:30 am	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	499.15	59.56	43.81
Demand (MW)	1399	1392	1365
Available capacity (MW)	1984	1984	1984
10:00 am	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	9159.39	58.73	50.10
Demand (MW)	1348	1358	1312
Available capacity (MW)	1984	1984	1984
10:30 am	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	299.19	40.30	40.34
Demand (MW)	1291	1328	1272
Available capacity (MW)	2014	1984	1984
11:00 am	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	285.43	40.30	40.32
Demand (MW)	1292	1308	1246
Available capacity (MW)	2004	1984	1984

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

At 8.55 am NEMMCO invoked a constraint to manage an unplanned outage of the Chapel Street – New Norfolk 110kV line. This constraint limited generation at Lake Echo, Meadowbank, Tarraleah and Tungatinah to around 130 MW. At 8.56 am, Hydro Tasmania shifted around 960 MW of capacity across its portfolio from prices below $300/MWh to prices exceeding $9000/MWh. The reason given was "portfolio optimisation". In accordance with clause 3.13.7 of the Electricity Rules, the AER will issue a separate report into the circumstances that led to the spot price exceeding $5000/MWh.

Tuesday, 2 June

1:30 am	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	499.20	299.20	499.26
Demand (MW)	1041	1042	1045
Available capacity (MW)	2038	2038	2038
2:00 am	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	499.20	299.20	499.20
Demand (MW)	1031	1032	1035
Available capacity (MW)	2038	2038	2038
2:30 am	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	499.20	299.20	499.20
Demand (MW)	1027	1027	1030
Available capacity (MW)	2038	2038	2038
3:00 am	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	499.20	299.20	499.20
Demand (MW)	1024	1024	1028
Available capacity (MW)	2038	2038	2038
3:30 am	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	499.20	499.20	499.26
Demand (MW)	1024	1033	1036
Available capacity (MW)	2038	2038	2038
4:00 am	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	499.20	499.20	9992.29
Demand (MW)	1023	1034	1038
Available capacity (MW)	2038	2038	2038
4:30 am	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	1148.50	499.18	4995.18
Demand (MW)	1018	1041	1043
Available capacity (MW)	2051	2038	2038
5:00 am	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	432.58	499.18	4995.26
Demand (MW)	1035	1044	1046
Available capacity (MW)	2058	2038	2038

Conditions at the time saw demand for some trading intervals as forecast and others slightly lower than forecast. Available capacity was as forecast for some trading intervals and slightly greater than forecast for others.

As there was only a small amount of capacity priced between $33/MWh and $9520/MWh, small changes in demand or the import limit into Tasmania had significant impacts on actual and forecast prices.

There was no significant rebidding.

Tuesday, 2 June

10:30 am	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	398.51	67.28	38.28
Demand (MW)	1392	1335	1349
Available capacity (MW)	1927	1927	1927

Conditions at the time saw demand 60 MW higher than that forecast four hours ahead. Available capacity was as forecast.

As there was only a small amount of capacity priced between $65/MWh and $470/MWh, small changes in demand or the import limit into Tasmania had significant impacts on actual and forecast prices.

There was no significant rebidding.

Detailed NEM Price and Demand Trends

for Weekly Market Analysis
31 May - 6 June 2009

AUSTRALIAN ENERGY REGULATOR

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

Financial year	QLD	NSW	VIC	SA	TAS
2008-09 ($/MWh) YTD	36	43	51	71	50
2007-08 ($/MWh) YTD	59	45	51	106	57
Change*	-38%	-4%	-2%	-33%	-12%
2007-08 ($/MWh)	58	44	51	101	57

Table 2: NEM turnover

Financial year	NEM Turnover** ($, billion)	Energy (TWh)
2008-09 YTD	$8.799	194
2007-08	$11.125	208

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

Volume weighted average ($/MWh)	QLD	NSW	VIC	SA	TAS	Turnover ($, billion)
Feb-09	42	47	38	47	40	0.709
Mar-09	27	26	26	35	37	0.466
Apr-09	34	38	40	38	69	0.622
May-09	28	31	33	35	49	0.550
Jun-09 MTD	28	36	39	42	93	0.132
Q1 2009	37	43	87	161	55	3.136
Q1 2008	80	34	50	243	54	3.358
Change*	-53%	28%	73%	-34%	1%	1.09%

Table 4: ASX energy futures contract prices at 5 June

	QLD		NSW		VIC		SA	
Q1 2010	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Price on 01 Jun ($/MW)	58	99	54	87	67	120	90	102
Price on 05 Jun ($/MW)	58	99	54	89	67	120	90	102
Open interest on 05 Jun	1841	135	1534	30	1610	35	23	0
Traded in the last week (MW)	80	0	261	5	53	0	0	0
Traded since 1 Jan 09 (MW)	2610	155	2108	42	2112	50	33	0
Settled price for Q1 09($/MW)	35	48	38	48	62	114	102	200

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

Comparison:	QLD	NSW	VIC	SA	TAS	NEM
April 09 with April 08						
MW Priced <$20/MWh	-755	-678	323	366	-41	-785
MW Priced $20 to $50/MWh	698	-218	-214	-33	57	290
May 09 with May 08						
MW Priced <$20/MWh	-276	-484	523	122	22	-92
MW Priced $20 to $50/MWh	547	198	-80	21	236	921
June 09 with June 08						
MW Priced <$20/MWh	3	-193	119	-213	385	101
MW Priced $20 to $50/MWh	567	452	164	-4	319	1499

*Note: These percentage changes are calculated on VWA prices prior to rounding
** Estimated value