WEEKLY MARKET ANALYSIS

AUSTRALIAN ENERGY REGULATOR

14 June-20 June 2009

Summary

Average spot prices fell in all mainland regions compared to the previous week, ranging from $25/MWh in Queensland to $32/MWh in South Australia.

The spot price in Tasmania exceeded $5000/MWh nine times during the week, approaching the price cap on four of those occasions. This followed the three spot prices above $5000/MWh the previous week. In accordance with the requirements of the National Electricity Rules (Electricity Rules), the AER will be issuing a report into the circumstances that led to the energy price exceeding $5000/MWh. Preliminary analysis indicates that step reductions in the output of Hydro Tasmania's (mini-hydro) non-scheduled generation units were significant drivers of these high price outcomes, consistent with the outcomes of the previous week.

At 5 pm on 16 June the spot price reached $9992/MWh, (the sixth price above $5000/MWh for the week) causing the cumulative price to exceed the Cumulative Price Threshold[1] (CPT). As a result the National Electricity Market Management Company (NEMMCO) declared an Administered Pricing Period (the first ever in Tasmania) for the remainder of the trading day. NEMMCO subsequently extended the Administered Pricing Period for the 17 June and then for the 18 June trading days. The cumulative price fell below the CPT at 9.30 am on 18 June and the Administered Pricing Period ceased from the beginning (4 am) of the 19 June trading day. There were a further three prices exceeding $5000/MWh only hours after the end of the Administered Pricing Period, but the cumulative price remained below the CPT.

Although administered pricing was in effect for several days, the average spot price reached a new record for Tasmania of $405/MWh.

Spot market prices

Figure 1 sets out the volume weighted average prices for 14 June to 20 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 14 June – 20 June	25	28	29	32	405
Financial year to date	37	43	50	70	63
% change from previous week*	-57	-57	-19	-9	40
% change from year to date**	-37	-3	-2	-32	10

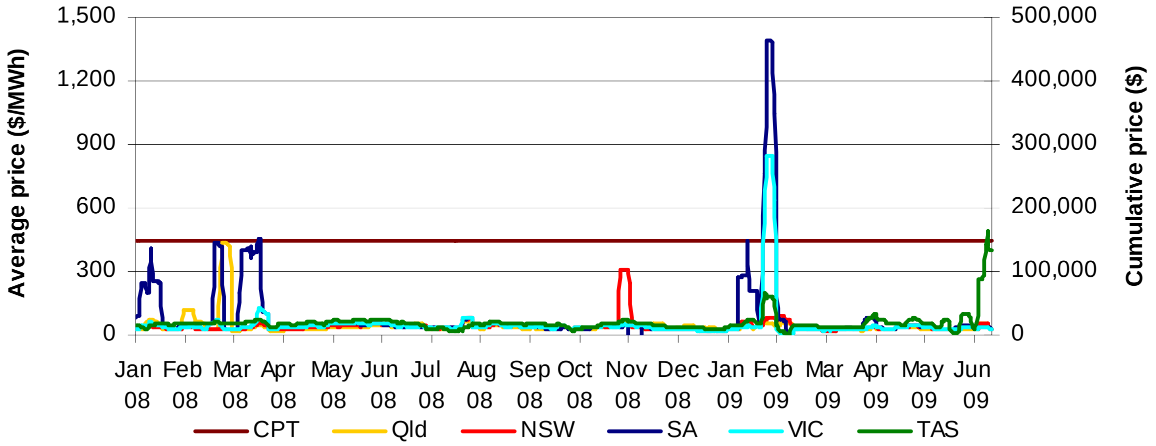
*The percentage change between last week's average spot price and the average price for the previous week.
**The percentage change between the average spot price for the current financial year to date and the average spot price over the similar period for the previous financial year.

1 The CPT is defined in Clause 3.14.1(c) of the Electricity Rules as $150 000. Clause 3.14.2 c(1) states that when the sum of the spot prices for the previous 336 trading intervals (i.e. prices over the previous week) exceeds the CPT, administered pricing is to apply. Administered pricing caps the spot price to a maximum of $300/MWh.

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 CPT (and the equivalent seven day time weighted average price).

Figure 2: Seven day rolling cumulative price, average price and CPT



Financial markets

Figures 3 to 10 show futures contract[2] prices traded on the Sydney Futures Exchange (SFE) as at close of trade on Monday 22 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	42*	0%	45*	-1%	47*	0%	53	-2%
Calendar Year 2011	44*	-1%	48*	-1%	51*	-1%	69	0%
Calendar Year 2012	55*	-5%	61	0%	69	0%	69	0%
Three year average	47	-2%	52	-1%	55	0%	64	-1%

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)

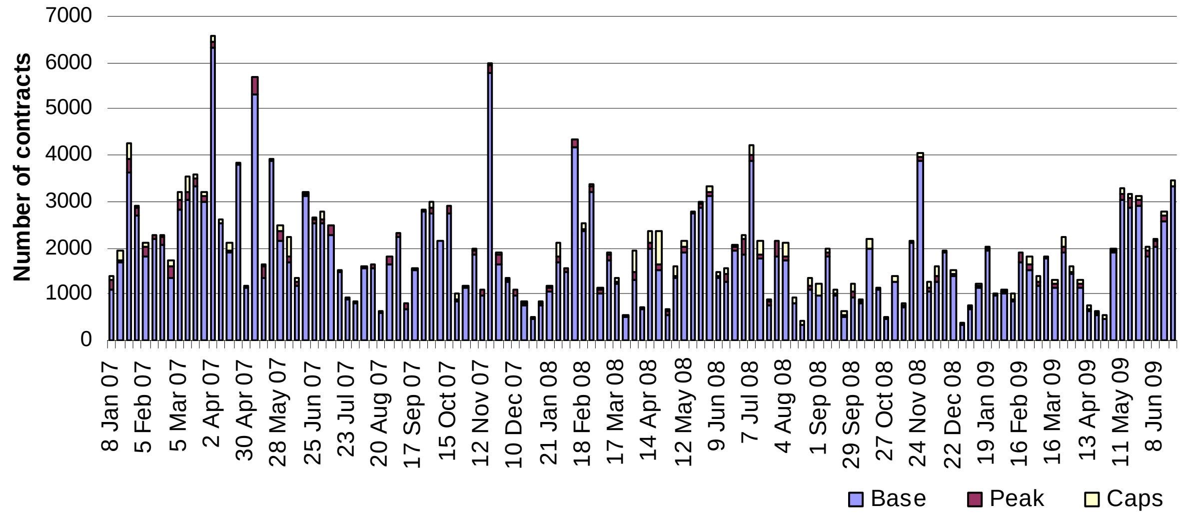
	QLD		NSW		VIC		SA	
Q1 2010	26	0%	21	0%	35	0%	45	0%
Financial 2009-10	11	4%	10	1%	11	-2%	17	2%

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

[2] 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 5 shows the weekly trading volumes for base, peak and cap contracts. The date represents the end of the trading week.

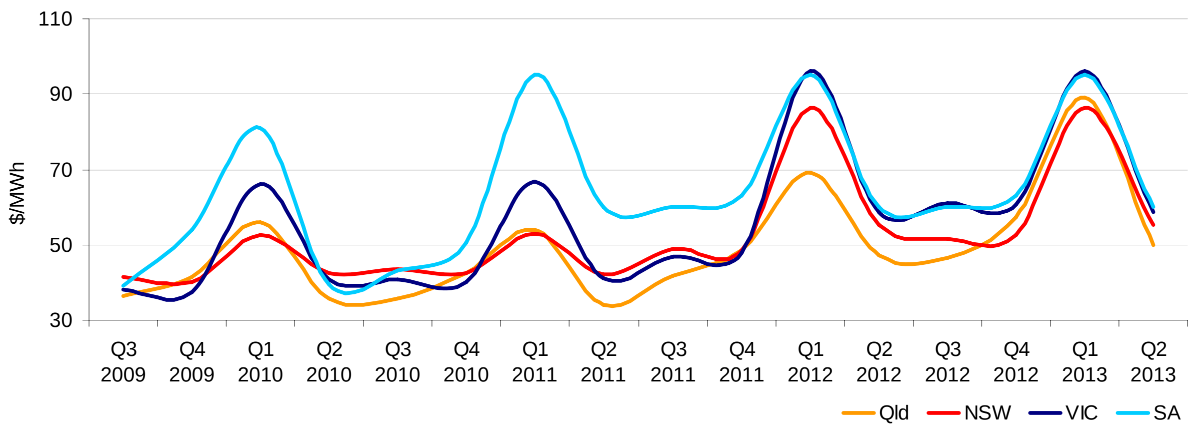
Figure 5: Number of exchange traded contracts per week



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.

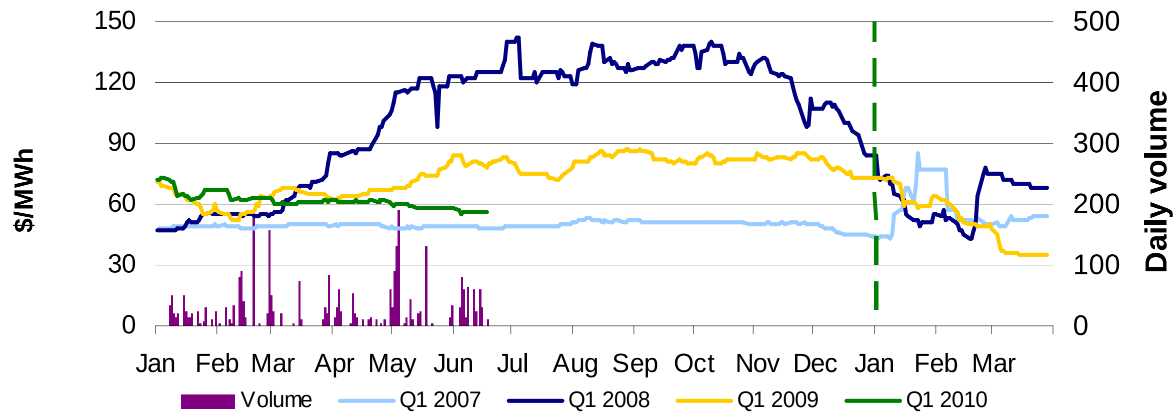
Figure 6: Quarterly base future prices Q3 2009 – Q2 2013



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

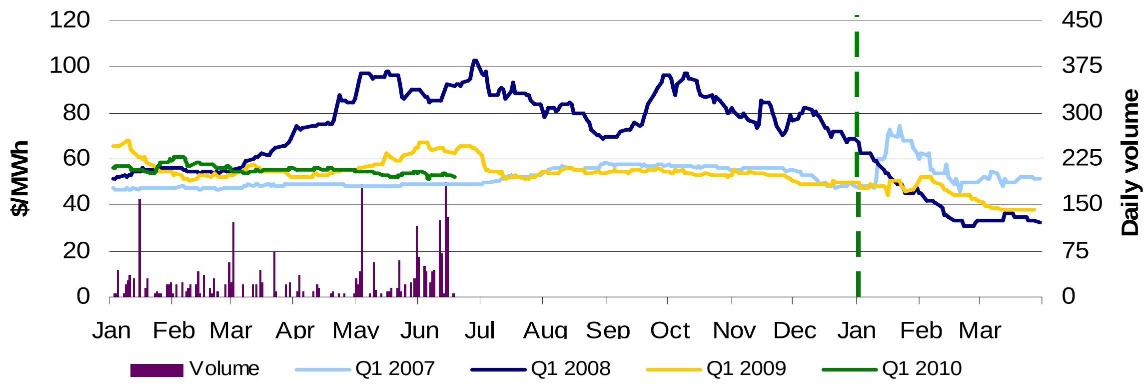
Figures 7-10 compare for each region the closing daily base contract prices for the first quarter of 2007, 2008, 2009 and 2010. Also shown is the daily volume of Q1 2010 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased.

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



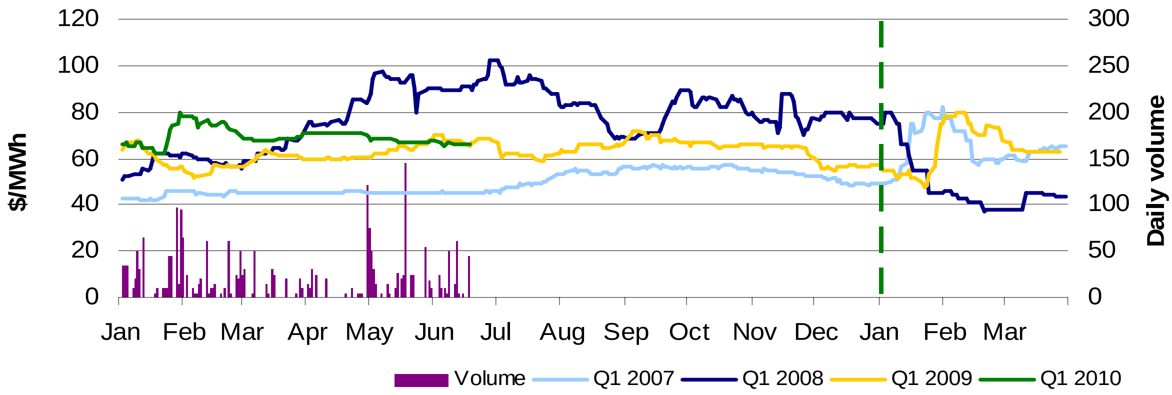
Source: d-cyphaTrade www.d-cyphatrade.com.au

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



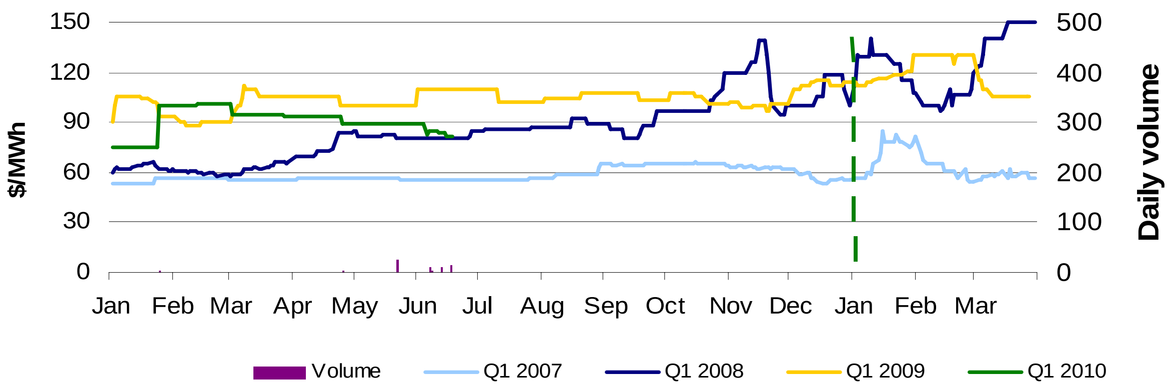
Source: d-cyphaTrade www.d-cyphatrade.com.au

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 Electricity Rules to determine whether there is a significant variation between the forecast spot price published by NEMMCO, 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 147 trading intervals throughout the week where actual prices varied significantly from forecasts[3]. This compares to the weekly average in 2008 of 130 counts. Reasons for variances are summarised in Figure 11[4].

Figure 11: Reasons for variations between forecast and actual prices

	Availability	Demand	Network	Combination
% of total above forecast	1	70	0	1
% of total below forecast	28	0	0	0

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[5]. For example, in Queensland 42 MW less 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.

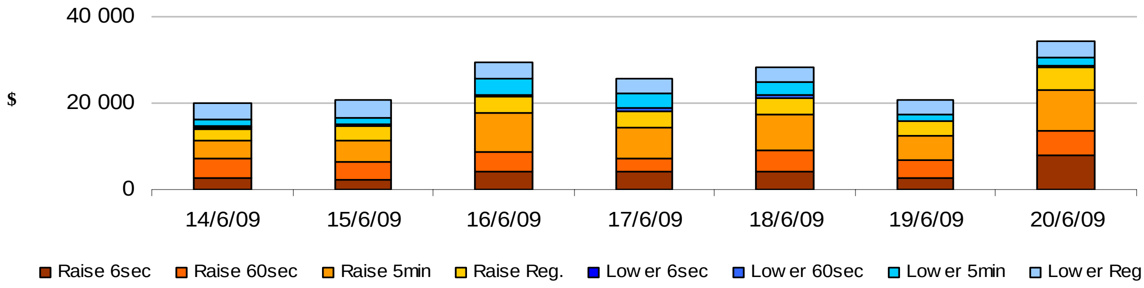
Figure 12: Changes in available generation and average demand compared to the previous week during peak periods

MW	<$20/MWh	Between $20 and $50/MWh	Total availability	Change in average demand
Qld	-42	-32	-394	-72
NSW	441	151	526	160
VIC	316	-20	207	132
SA	-98	-8	-81	100
TAS	-78	7	101	31
TOTAL	539	98	359	351

Ancillary services market

The total cost of frequency control ancillary services (FCAS) on the mainland for the week was $104 000 or less than one per cent of turnover in the energy market. The total cost of FCAS in Tasmania for the week was $75 000 or less than one per cent of turnover in the energy market. Figure 13 shows the daily breakdown of cost for FCAS for the NEM.

Figure 13: Daily frequency control ancillary service cost



Australian Energy Regulator
July 2009

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3 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.

4 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.

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

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National: There was one occasion 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 $28/MWh. The New South Wales spot price has been used as a proxy national price as New South Wales is located in the centre of the NEM.

Sunday, 14 June

6:00 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	94.24	58.00	58.00
Demand (MW)	28 269	27 798	27 195
Available capacity (MW)	36 082	35 807	35 481

Conditions at the time saw demand around 470 MW and available capacity around 275 MW higher than that forecast four hours ahead.

At 1.34 pm, CS Energy reduced the available capacity at Kogan Creek by 400 MW (all of which was priced below $10/MWh). The rebid reason given was “Ash issues”.

Over two rebids at 3.17 pm and 3.46 pm, Delta Electricity rebid 220 MW of capacity at its Mount Piper and Vales Point units from prices below $60/MWh to above $110/MWh. The reasons given were “Change in sensitivities::Band shift” and “Change in sensitivities:: spot price change”.

Over two rebids at 4.21 pm and 5.17 pm, Hydro Tasmania shifted 524 MW of capacity across its portfolio from prices below $60/MWh to above $730/MWh and also reduced its available capacity at Trevalln by 26 MW (all of which was priced below zero). The reasons given were “Change in demand forecast” and “Plant failure”.

There was no other significant rebidding.

Queensland/New South Wales: There was one occasion where the spot price aligned in Queensland and New South Wales and the price was greater than three times the weekly average price. The New South Wales spot price has been used as a proxy.

Sunday, 14 June

6:30 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	86.62	61.39	60.64
Demand (MW)	18 387	18 047	17 608
Available capacity (MW)	22 538	21 724	21 725

Conditions at the time saw demand around 340 MW greater than that forecast four hours ahead and available capacity around 815 MW greater than forecast.

At 1.34 pm, CS Energy reduced the available capacity at Kogan Creek by 400 MW (all of which was priced below $10/MWh). The rebid reason given was “Ash issues”.

Over two rebids at 3.17 pm and 3.46 pm, Delta Electricity rebid 220 MW of capacity at its Mount Piper and Vales Point units from prices below $60/MWh to above $110/MWh. The reasons given were “Change in sensitivities::Band shift” and “Change in sensitivities:: spot price change”.

Over several rebids from 3.50 pm, Snowy Hydro shifted around 300 MW of capacity at its Murray unit from prices below $35/MWh to above $88/MWh. The reasons given were "NSW flw hgr thn prev fcast:: Realloc Gen", "Bid error correction::Bandshift up/dwn" and "NSW flw lwr thn exptd:: Band shift up".

There was no other significant rebidding.

Tasmania: There were 13 occasions where the spot price in Tasmania was greater than three times the Tasmania weekly average price of $405/MWh.

Sunday, 14 June

5:30 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	1347.24	30.34	30.64
Demand (MW)	1398	1361	1313
Available capacity (MW)	2119	1973	1973

Conditions at the time saw demand close to that forecast four hours ahead and available capacity up to 140 MW of capacity greater than forecast.

At 4.21 pm Hydro Tasmania rebid 571 MW of capacity across its portfolio from prices below $60/MWh to above $730/MWh. The reason given was "Change in demand forecast".

There was also a decrease in non-scheduled generation[6] from 161 MW at 5 pm to 130 MW at 5.25 pm. The reduction resulted in an increase in demand and saw the dispatch of higher-priced generation.

There was no other significant rebidding.

Monday, 15 June

10:30 am	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	3517.63	28.28	30.84
Demand (MW)	1402	1376	1382
Available capacity (MW)	2077	2057	2057
5:00 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	8373.59	85.20	30.36
Demand (MW)	1426	1388	1388
Available capacity (MW)	2113	2083	2083
6:00 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	9992.25	62.47	58.68
Demand (MW)	1552	1530	1491
Available capacity (MW)	2113	2083	2083

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

There was a significant decrease in non-scheduled generation coincident with each of the high price periods from 138 MW at 10.10 am to 81 MW at 10.20 am, 115 MW at 4.35 pm to 69 MW at 4.40 pm and from 124 MW at 5.30 pm to 69 MW at 5.35 pm. These reductions resulted in an increase in demand and saw the dispatch of higher-priced generation. 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.

6 On the majority of occasions where there was a decrease in output from non-scheduled generation, the reduction occurred at the Cluny, Paloona, Repulse and Rowallan mini-hydro generators.

Tuesday, 16 June

7:00 am	Actual	4 hr forecast	12 hr forecast
Price ($/MWh)	3370.65	30.26	280.26
Demand (MW)	1323	1345	1321
Available capacity (MW)	2069	2069	2093
8:30 am	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	6874.97	34.66	34.92
Demand (MW)	1564	1589	1549
Available capacity (MW)	2069	2069	2093
9:30 am	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	9992.29	35.49	85.24
Demand (MW)	1499	1546	1503
Available capacity (MW)	2069	2069	2039
10:30 am	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	5103.78	34.17	85.24
Demand (MW)	1394	1512	1422
Available capacity (MW)	2020	2020	1990
5:00 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	9992.20	280.16	85.14
Demand (MW)	1338	1486	1507
Available capacity (MW)	2098	2123	2098

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

During the 7 am, 8.30 am, 9.30 am and 10.30 am trading intervals there was a significant decrease in non-scheduled generation from around 105 MW to around 50 MW. These reductions resulted in an increase in demand and saw the dispatch of higher-priced generation. 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.

Friday, 19 June

8:30 am	Actual	4 hr forecast	12 hr forecast
Price ($/MWh)	9992.30	150.28	150.28
Demand (MW)	1517	1539	1547
Available capacity (MW)	2098	2098	2098
9:30 am	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	9160.30	42.57	44.93
Demand (MW)	1461	1496	1500
Available capacity (MW)	2053	2053	2053
10:30 am	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	5000.30	41.28	41.28
Demand (MW)	1379	1414	1418
Available capacity (MW)	2053	2053	2053

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

During the 8.30 am and 9.30 am trading intervals there was a significant decrease in non-scheduled generation from around 105 MW to around 40 MW. The 10.30 am trading interval saw a reduction in non-scheduled generation by up to 70 MW (from 95 MW at 10 am to 24 MW at 10.15 am). These reductions resulted in an increase in demand and saw the dispatch of higher-priced generation. 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.

Friday, 19 June

5:00 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	1766.83	22.10	23.14
Demand (MW)	1316	1363	1369
Available capacity (MW)	2053	2053	2048

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

At 3.48 pm, Hydro Tasmania rebid 441 MW of capacity across its portfolio from prices below zero to above $9400/MWh. The reason given was “Portfolio optimisation”. At 4.55 pm a reduction in the output from the Repulse non-scheduled generator (in a similar fashion to the previous occurrences during the week) resulted in an increase in demand and saw the dispatch of higher-priced generation. This saw the five-minute dispatch price increase to $5000/MWh for two dispatch intervals.

There was no other significant rebidding.

Detailed NEM Price and Demand Trends

for Weekly Market Analysis
14 June - 20 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 ($/MWh) YTD	37	43	50	70	63
2007-08 ($/MWh) YTD	58	45	51	103	57
Change*	-37%	-3%	-2%	-32%	10%
2007-08 ($/MWh)	58	44	51	101	57

Table 2: NEM turnover

Financial year	NEM Turnover** ($, billion)	Energy (TWh)
2008-09 YTD	$9.268	202
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	38	43	34	36	273	0.601
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 22 June

	QLD		NSW		VIC		SA	
Q1 2010	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Price on 15 Jun ($/MW)	56	95	53	83	66	120	85	121
Price on 22 Jun ($/MW)	56	95	53	85	66	118	81	121
Open interest on 22 Jun	2001	135	1734	25	1675	35	53	0
Traded in the last week (MW)	125	0	396	0	115	0	25	0
Traded since 1 Jan 09 (MW)	3015	170	2779	47	2317	50	73	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	122	182	410	-41	135	807
MW Priced $20 to $50/MWh	481	686	-109	58	227	1343

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