

WEEKLY ELECTRICITY MARKET ANALYSIS



AUSTRALIAN ENERGY
REGULATOR

13 – 19 December 2009

Summary

On Thursday 17 December, extreme temperatures and near record demand caused the spot price in New South Wales to exceed \$5000/MWh on three occasions, reaching a maximum of \$8703/MWh at 3 pm. As a result, the weekly average spot price for New South Wales reached \$198/MWh. As required by the National Electricity Rules (Electricity Rules), the AER will be issuing a separate report into the events that caused the above \$5000/MWh spot prices.

The weekly average spot price in other regions ranged from \$30/MWh in Victoria to \$45/MWh in Queensland.

In the retail sector, the Australian Energy Market Operator (AEMO) issued a suspension notice to Jackgreen Pty Ltd on 18 December 2009. The suspension, issued under clause 3.15.21(f) of the Electricity Rules, triggered a Retailer of Last Resort (RoLR) event.

Spot market prices

Figure 1 sets out the volume weighted average prices for the week 13 December to 19 December 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
Average price for 13 –19 December	45	198	30	33	32
% change from previous week*	-2	-33	38	52	-23
09/10 financial YTD	41	66	27	84	27
% change from 08/09 financial YTD**	7	40	-31	119	-39

*The percentage change between last week's average spot price and the average price for the previous week. Calculated on VWA prices prior to rounding.

**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. Percentage changes are calculated on VWA prices prior to rounding.

The AER provides further information if the spot price exceeds three times the weekly average and is above \$250/MWh. Details of these events are attached in Appendix A. Longer term market trends are attached in Appendix B¹.

¹ Monitoring the performance of the wholesale market is a key part of the AER's role and an overview of the market's performance in the long-term is provided on the AER website. Long-term statistics can be found there on, amongst other things, demand, spot prices, contract prices and frequency control ancillary services prices.

To access this information go to

www.aer.gov.au -> Monitoring, reporting and enforcement -> Electricity market reports -> Long-term analysis.

Financial markets

Figures 2 to 9 show futures contract² prices traded on the Sydney Futures Exchange (SFE) as at close of trade on Monday 21 December. Figure 2 shows the base futures contract prices for the next three calendar years, and the three year average. Also shown are percentage changes³ compared to the previous week.

Figure 2: Base calendar year futures contract prices (\$/MWh)

	QLD		NSW		VIC		SA	
Calendar Year 2010	39	-1%	44	1%	43*	0%	55	0%
Calendar Year 2011	40	0%	44	0%	44	-1%	53	-4%
Calendar Year 2012	49	-1%	52	0%	53	0%	69	0%
Three year average	42	-1%	46	0%	47	0%	59	-1%

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

* denotes trades in the product.

Figure 3 shows the \$300 cap contract price for the first quarter of 2010 and the 2010 calendar year and the percentage change⁴ from the previous week.

Figure 3: \$300 cap contract prices (\$/MWh)

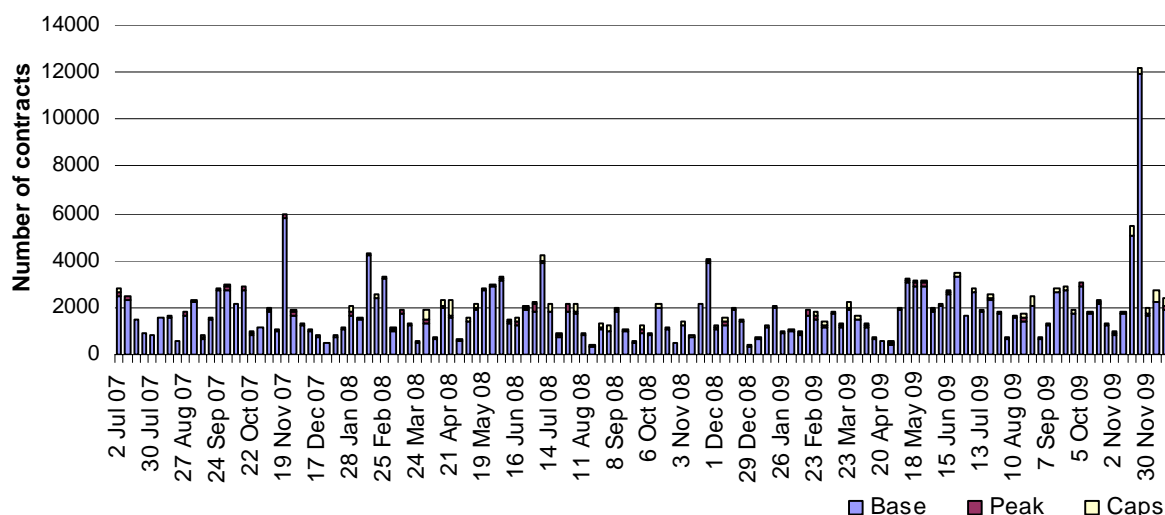
	QLD		NSW		VIC		SA	
Q1 2010 (% Change)	26*	-6%	27*	-3%	33*	-1%	61	2%
2010 (% Change)	10	-3%	13	-1%	12	-1%	19	1%

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

* denotes trades in the product.

Figure 4 shows the weekly trading volumes for base, peak and cap contracts. The date represents the end of the trading week.

Figure 4: Number of exchange traded contracts per week



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

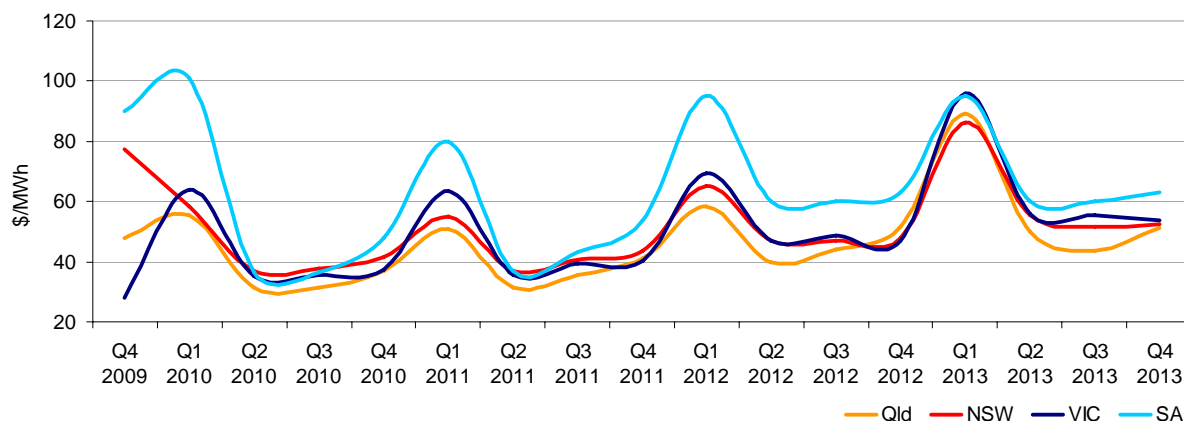
² Futures contracts on the SFE are listed by d-cyphaTrade (www.d-cyphatrade.com.au). A futures contract is typically for one MW of electrical energy per hour based on a fixed load profile. A base load profile is defined as the base load period from midnight to midnight Monday to Sunday over the duration 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.

³ Calculated on prices prior to rounding.

⁴ Calculated on prices prior to rounding.

Figure 5 shows the prices for base contracts for each quarter for the next four financial years.

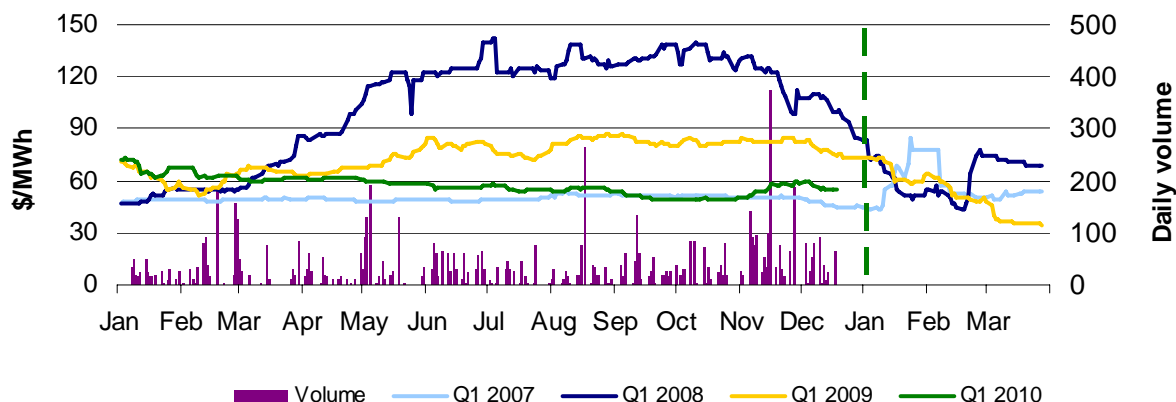
Figure 5: Quarterly base future prices Q4 2009 – Q3 2013



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

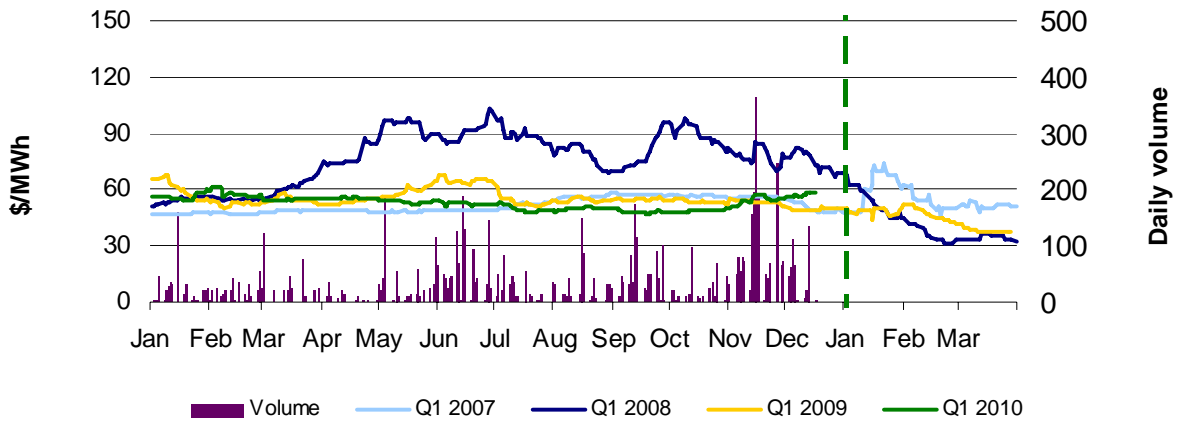
Figures 6-9 compare for each region the closing daily base contract prices for the first quarter of 2007, 2008, 2009 and 2010. Also shown is the daily volume of Q1 2010 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased. To understand the diagrams, the dark-blue line demonstrates that throughout the middle of 2007, the market had an expectation of very high spot prices in the first quarter of 2008.

Figure 6: Queensland Q1 2007, 2008, 2009 and 2010



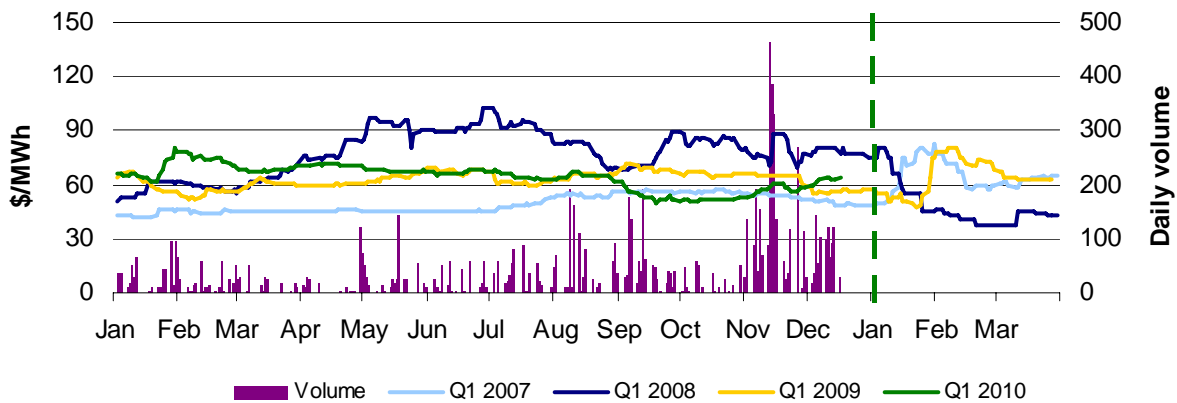
Source: d-cyphaTrade www.d-cyphatrade.com.au

Figure 7: New South Wales Q1 2007, 2008, 2009 and 2010



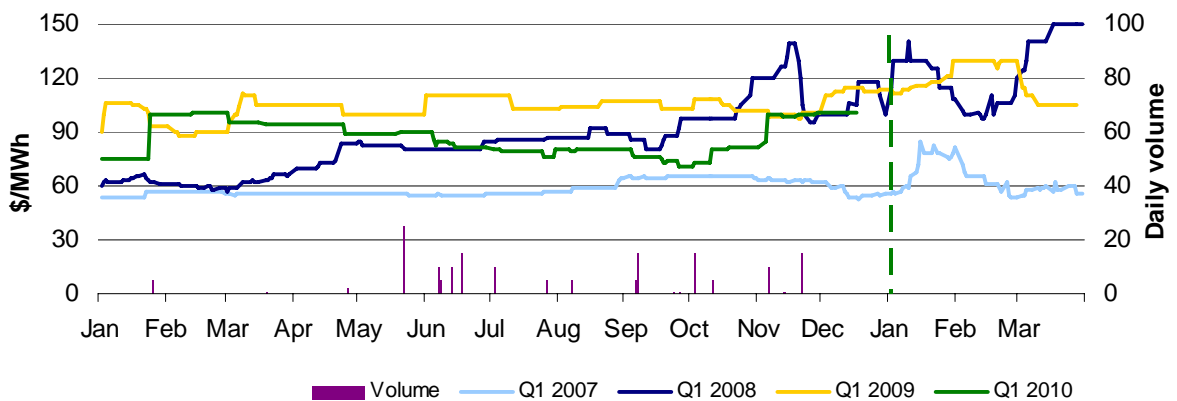
Source: d-cyphaTrade www.d-cyphatrade.com.au

Figure 8: Victoria Q1 2007, 2008, 2009 and 2010



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

Figure 9: South Australia Q1 2007, 2008, 2009 and 2010



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

*The daily volume scale for South Australia is smaller than for other regions to reflect the lower liquidity in the market in South Australia.

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 AEMO and 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 133 trading intervals throughout the week where actual prices varied significantly from forecasts⁵. This compares to the weekly average in 2008 of 130 counts. Reasons for these variances are summarised in Figure 10⁶.

Figure 10: Reasons for variations between forecast and actual prices

	Availability	Demand	Network	Combination
% of total above forecast	4	11	0	10
% of total below forecast	41	19	0	15

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 11 shows the weekly change in total available capacity at various price levels during peak periods⁷. For example, in Queensland 20 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 11: 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	20	99	391	-485
NSW	-50	-302	-248	193
VIC	-211	270	-177	545
SA	153	61	265	382
TAS	135	390	128	-6
TOTAL	47	518	359	629

Ancillary services market

The total cost of frequency control ancillary services (FCAS) on the mainland for the week was \$113 000 or less than one per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was \$188 000 or about three per cent of energy turnover in Tasmania.

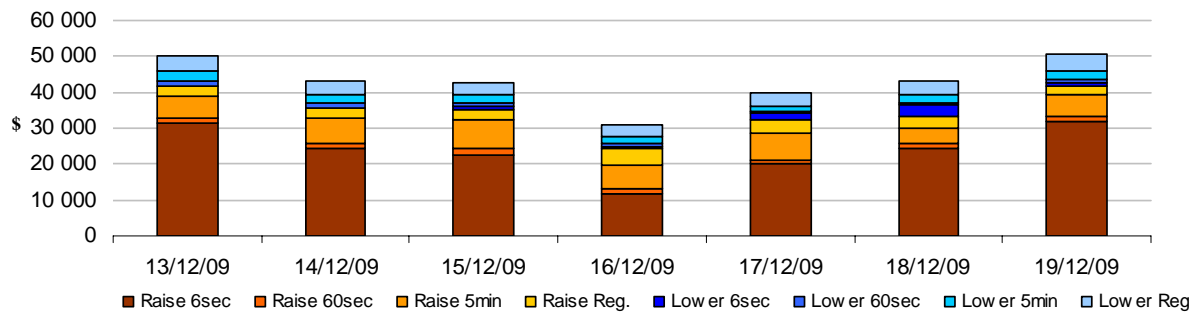
Figure 12 shows the daily breakdown of cost for each FCAS for the NEM.

⁵ 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.

⁶ 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.

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

Figure 12: Daily frequency control ancillary service cost



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Queensland: There were four occasions where the spot price in Queensland was greater than three times the Queensland weekly average price of \$45/MWh and greater than \$250/MWh.

Thursday, 17 December

12:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	268.73	24.89	30.58
Demand (MW)	7653	7782	7783
Available capacity (MW)	11 183	11 485	11 215
3:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	3437.71	1633.87	249.99
Demand (MW)	7799	7847	7851
Available capacity (MW)	11 104	11 289	11 461
3:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	288.10	1747.26	250.78
Demand (MW)	7765	7827	7830
Available capacity (MW)	11 151	11 119	11 461
4:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	271.18	1731.19	149.50
Demand (MW)	7711	7830	7826
Available capacity (MW)	11 095	11 149	11 451

Both demand and available capacity were lower than forecast, by 129MW and 300MW respectively. In particular, Stanwell Corporation reduced the available capacity at Gladstone by 270MW for the 3 pm trading interval, through two rebids at 9.12 am and 10.57 am. Of this 270MW reduction in availability, 220MW was originally offered at less than \$275/MWh. The reasons given were “0911P Revised unit outage” and “1053P Revised unit outage”. At 1.14 pm, 30 MW of capacity was returned to service. The reason given was “1313P Unit ramp down pre outage – match target –SL”.

At 9.55 am, effective from 10.05 am, Millmerran Energy rebid 220 MW of capacity across its Millmerran station from prices below \$10/MWh to above \$9500/MWh. The reason given was “09.54 A: System demand higher than predispatch”.

The AER notes that this rebid reason does not conform to the Rebidding and Technical Parameters Guideline that took effect from 1 December 2009. This Guideline provides assistance to industry on the AER’s interpretation of the Electricity Rules requirement for rebids to be “brief, verifiable and specific.”

In this instance, it would appear that the relevant participant was rebidding in response to a revised forecast produced by AEMO. In order to meet the requirement for the rebid reason to be brief, verifiable and specific, the rebidding guideline requires that a description of the forecast type and when it was produced should be included in the reason. In addition, if a change to an AEMO forecast is the reason for a rebid, where possible, the reason should

provide the original forecast and revised forecast. In accordance with 3.8.22(c)(3), the AER will seek additional information to verify this rebid.

The AER will shortly be conducting a desktop audit of rebid reasons that have been submitted since 1 December 2009. In addition to contacting participants directly regarding any compliance concerns, the results of the audit will be included in the next AER Quarterly Compliance Report.

In addition, a rebid from CS energy at 2.31 pm also failed to meet the Rebidding and Technical Parameters Guideline. The rebid, effective from 2.40 pm, moved 155 MW of capacity at Callide B unit one, from prices below \$15/MWh to above \$6400/MWh. The reason given was “17 DEC 14:31 – A: CALL_B_Pool price higher than forecast”. The AER will seek additional information to verify this rebid.

There was no other significant rebidding.

New South Wales: There were 14 occasions where the spot price in New South Wales was greater than three times the New South Wales weekly average price of \$198/MWh and greater than \$250/MWh.

Thursday, 17 December

10:30 am	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	3188.73	25.23	25.01
Demand (MW)	12 404	11 555	11 556
Available capacity (MW)	13 002	13 212	13 216
11:00 am	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	5546.80	22.39	23.34
Demand (MW)	12 622	11 700	11 695
Available capacity (MW)	13 120	13 212	13 216
11:30 am	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	1929.99	26.75	27.34
Demand (MW)	12 888	11 891	11 892
Available capacity (MW)	13 258	13 216	13 216
12:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	1470.09	509.52	28.41
Demand (MW)	13 024	12 276	12 073
Available capacity (MW)	13 366	13 550	13 550
12:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	991.74	533.12	29.73
Demand (MW)	13 125	12 411	12 260
Available capacity (MW)	13 354	13 385	13 550
1:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	885.33	553.15	526.79
Demand (MW)	13 208	12 702	12 502
Available capacity (MW)	13 348	13 495	13 580
1:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	893.33	526.98	544.17
Demand (MW)	13 296	12 788	12 662
Available capacity (MW)	13 347	13 530	13 620

Thursday, 17 December (cont)

2:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	756.40	560.87	711.35
Demand (MW)	13 271	12 890	12 884
Available capacity (MW)	13 347	13 570	13 660
2:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	3900.07	1064.67	580.82
Demand (MW)	13 184	13 277	12 993
Available capacity (MW)	13 283	13 545	13 700
3:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	8703.08	3405.97	919.31
Demand (MW)	13 290	13 292	13 114
Available capacity (MW)	13 229	13 554	13 736
3:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	2420.07	3405.97	933.43
Demand (MW)	13 410	13 247	13 192
Available capacity (MW)	13 394	13 569	13 778
4:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	5467.81	3405.85	753.64
Demand (MW)	13 485	13 109	13 123
Available capacity (MW)	13 372	13 489	13 816
4:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	826.11	925.37	543.06
Demand (MW)	13 397	12 895	12 910
Available capacity (MW)	13 292	13 534	13 856
5:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	624.08	43.89	533.96
Demand (MW)	13 288	12 646	12 815
Available capacity (MW)	13 261	13 569	13 896

In accordance with clause 3.13.7 of the Electricity Rules, the AER will issue a separate report in to the circumstances that led to the spot price exceeding \$5000/MWh.

Victoria: There was one occasion where the spot price in Victoria was greater than three times the Victoria weekly average price of \$30/MWh and greater than \$250/MWh.

Wednesday, 16 December

4:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	259.83	294.45	9694.18
Demand (MW)	9002	9423	9471
Available capacity (MW)	9343	9486	9788

Conditions at the time saw demand up to 470 MW and available capacity up to 445 MW less than that forecast 12 hours ahead. Price was significantly lower than that forecast 12 hours ahead but close to forecast four hours ahead.

Prices across all mainland regions were aligned for the 4 pm trading interval. At 8.09 am, AGL reduced the available capacity at Torrens Island A unit two (which was scheduled to start at midday) by up to 120 MW to zero, the majority of which was priced below \$100/MWh. The reason given was “Plant limitations::adj to unit commitment”. At 11.06 am, AGL rebid 166 MW of capacity across its Hallet and Hallet 2 Wind Farms from prices above \$9700/MWh to below zero and increased the available capacity at Torrens Island A unit three, by 45 MW, all priced below zero. The reason for both rebids was “08:58 P Plant failure:: unit failed to start S.L”. The AER will seek additional information to verify this rebid.

At 9.24 am, effective from 11.05 am, Uranquinty Power rebid 664 MW of capacity from prices above \$9300/MWh to below \$80/MWh. This saw the forecast prices in Victoria, South Australia and New South Wales for the 4 pm trading interval decrease from above \$8800/MWh to below \$570/MWh. The reason given was “0915 EST (NP) Change in PDS, Testing”. This rebid reason is also not in accordance with the Rebidding and Technical Parameters Guideline. The AER will seek additional information to verify this rebid.

At 10.54 am, Snowy Hydro rebid 646 MW of capacity at Murray from prices above \$9540/MWh to below \$290/MWh. The reason given was “09:32 A NSW: 30M PD DEM 190 hghr thn 30 M PD 09:02 for 15:00”. The AER will not seek further information from Snowy Hydro regarding this rebid, as it contains sufficient information to substantiate and verify the reason for the rebid, in accordance with the Rebidding and Technical Parameters Guideline

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 \$33/MWh and greater than \$250/MWh.

Wednesday, 16 December

4:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	297.44	312.66	9999.50
Demand (MW)	2835	2727	2844
Available capacity (MW)	3057	3030	3203
4:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	265.55	299.30	9999.10
Demand (MW)	2867	2775	2868
Available capacity (MW)	3040	3029	3187

Conditions at the time saw demand up to 108 MW greater than that forecast four hours ahead and available capacity close to forecast four hours ahead. Prices were close to that forecast four hours ahead but significantly lower than that forecast 12 hours ahead.

Refer to Victorian region section for more information regarding rebidding.

There was no other significant rebidding.

Detailed NEM Price and Demand Trends

for Weekly Market Analysis
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Table 1: Financial year to date spot market volume weighted average price

Financial year	QLD	NSW	VIC	SA	TAS
2009-10 (\$/MWh) (YTD)	41	66	27	84	27
2008-09 (\$/MWh) (YTD)	39	47	39	39	45
Change*	7%	40%	-31%	119%	-39%
2008-09 (\$/MWh)	36	43	49	69	62

Table 2: NEM turnover

Financial year	NEM Turnover** (\$, billion)	Energy (TWh)
2009-10 (YTD)	\$4.768	97
2008-09	\$9.413	208
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)
Aug-09	24	25	23	24	22	0.418
Sep-09	25	26	24	28	22	0.406
Oct-09	27	28	26	30	26	0.459
Nov-09	99	138	36	325	34	1.924
Dec-09 (MTD)	39	190	26	27	35	1.008
Q3 2009	26	28	25	27	24	1.377
Q3 2008	36	41	42	42	44	2.226
Change*	-29%	-31%	-41%	-36%	-46%	-38.16%

Table 4: ASX energy futures contract prices at 21 December

	QLD		NSW		VIC		SA	
	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Q1 2010								
Price on 14 Dec (\$/MW)	56	99	57	97	64	115	101	160
Price on 21 Dec (\$/MW)	55	97	58	97	64	115	101	185
Open interest on 21 Dec	3070	200	3487	152	3996	257	102	30
Traded in the last week (MW)	136	40	168	5	430	25	0	0
Traded since 1 Jan 09 (MW)	7350	335	7760	188	9027	501	161	20
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
October 09 with October 08						
MW Priced <\$20/MWh	156	-288	247	48	29	193
MW Priced \$20 to \$50/MWh	-140	227	110	-45	702	854
November 09 with November 08						
MW Priced <\$20/MWh	855	-401	581	338	-101	1271
MW Priced \$20 to \$50/MWh	-354	-172	325	-124	812	487
December 09 with December 08						
MW Priced <\$20/MWh	1205	-92	-133	463	-198	1245
MW Priced \$20 to \$50/MWh	-528	-217	555	-28	507	289

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

** Estimated value