

WEEKLY ELECTRICITY MARKET ANALYSIS



27 June – 3 July 2010

Summary

The weekly average spot price ranged from \$28/MWh in Queensland to \$53/MWh in New South Wales.

At 11.44 am, on Thursday 1 July, a SCADA failure at the Dederang terminal station in Victoria caused an incorrect power flow reading on the three Dederang transformers, which was mistakenly used in dispatch. This had significant impact on the dispatch of the Basslink, Vic-NSW and Murraylink interconnector flows and dispatch outcomes in SA and Victoria.

Five-minute prices in SA and Victoria exceeded \$3200/MWh at 11.50 am, and reached the market price cap of \$12 500/MWh for the 12 pm and 12.05 pm dispatch intervals. This saw a number of participants rebidding capacity from high-price bands to prices below zero. In addition, a demand-side response saw Victoria demand reduce by more than 600 MW.

The SCADA failure triggered the “manifestly incorrect input” process and the prices for these dispatch intervals (in all NEM regions) were replaced by the 11.45 am price (the last valid dispatch price). This process also resulted in AEMO declaring a scheduling error. At 12.10 pm, when prices were no-longer overridden by the 11.45 am price, the prices across all regions fell, with prices in South Australia, Victoria and Tasmania at -\$1000/MWh, -\$925/MWh and -\$495/MWh respectively, for the 12.20 pm dispatch interval.

Also on 1 July, the market price cap increased from \$10 000/MWh to \$12 500/MWh and the Cumulative Price Threshold increased from \$150 000 to \$187 500.

Spot market prices

Figure 1 sets out the volume weighted average prices for the week 27 June to 3 July 2010 and the financial year 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 27 June – 3 July 2010	28	53	33	41	31
% change from previous week*	29	86	-6	5	-10
09/10 financial	37	52	42	82	30
% change from 08/09 financial **	3	23	-14	20	-51

*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 and the average spot price over 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

Financial markets

Figures 2 to 9 show futures contract² prices traded on the Sydney Futures Exchange (SFE) as at close of trade on Monday 5 July 2010. 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 2011	33*	-1%	42*	-1%	39*	0%	44	2%
Calendar Year 2012	35	-1%	44*	0%	42	0%	46	0%
Calendar Year 2013	58	0%	61	-1%	59	0%	69	0%
Three year average	42	0%	49	-1%	46	0%	53	0%

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 2011 and the 2011 calendar year and the percentage change⁴ from the previous week.

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

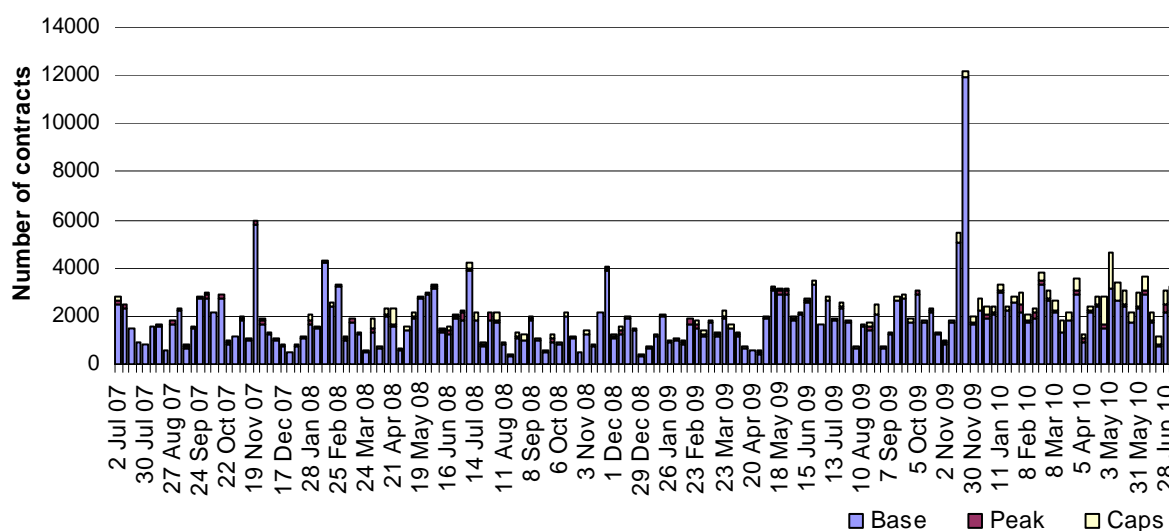
	QLD		NSW		VIC		SA	
Q1 2011 (% Change)	17*	0%	21*	-1%	27*	2%	40	0%
2011 (% Change)	8	-1%	12	-5%	10	-1%	14	0%

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

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

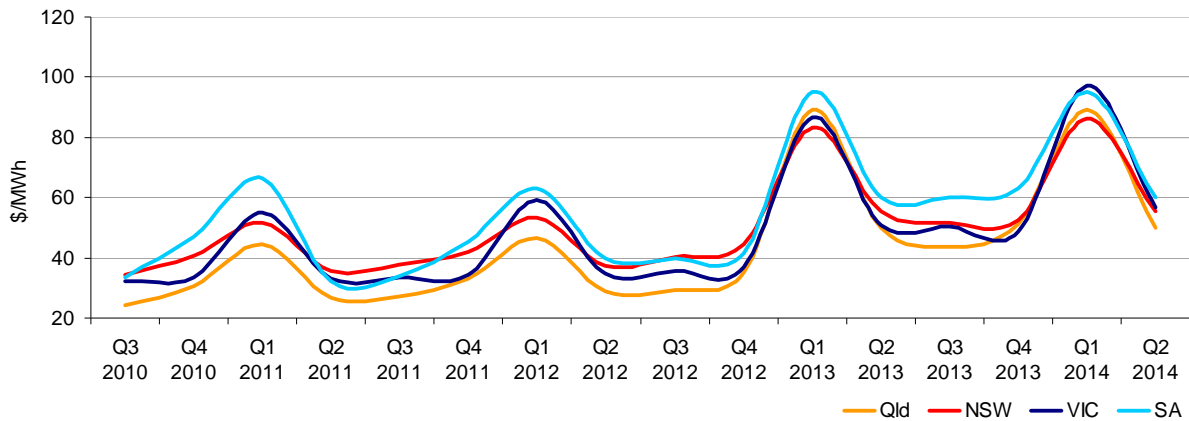
² Futures contracts traded on the SFE are listed by d-cyphaTrade (www.d-cyphatrade.com.au). A futures contract is typically for one MW of electrical energy per hour based on a fixed load profile. A base load profile is defined as the base load period from midnight to midnight Monday to Sunday over the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

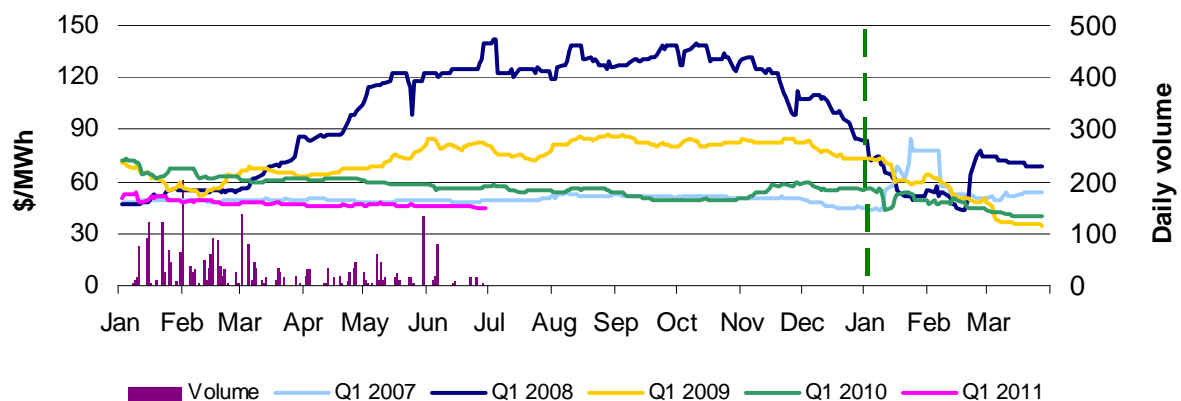
Figure 5: Quarterly base future prices Q3 2010 – Q2 2014



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

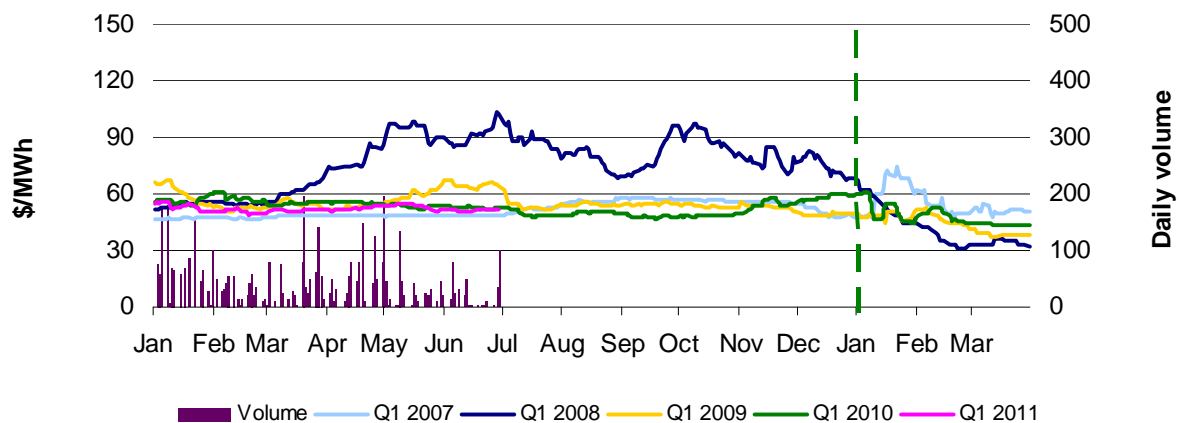
Figures 6-9 compare for each region the closing daily base contract prices for the first quarter of 2007, 2008, 2009, 2010 and 2011. Also shown is the daily volume of Q1 2011 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased. 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, 2010 and 2011



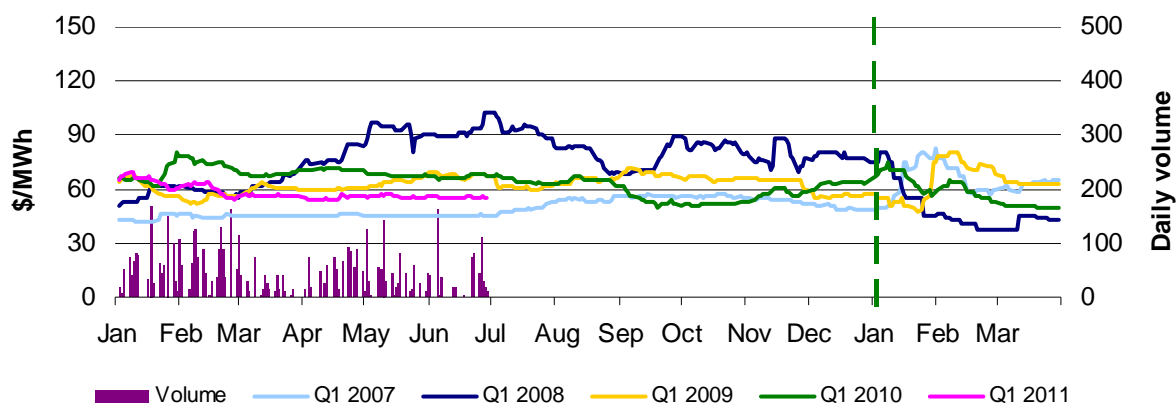
Source: d-cyphaTrade www.d-cyphatrade.com.au

Figure 7: New South Wales Q1 2007, 2008, 2009, 2010 and 2011



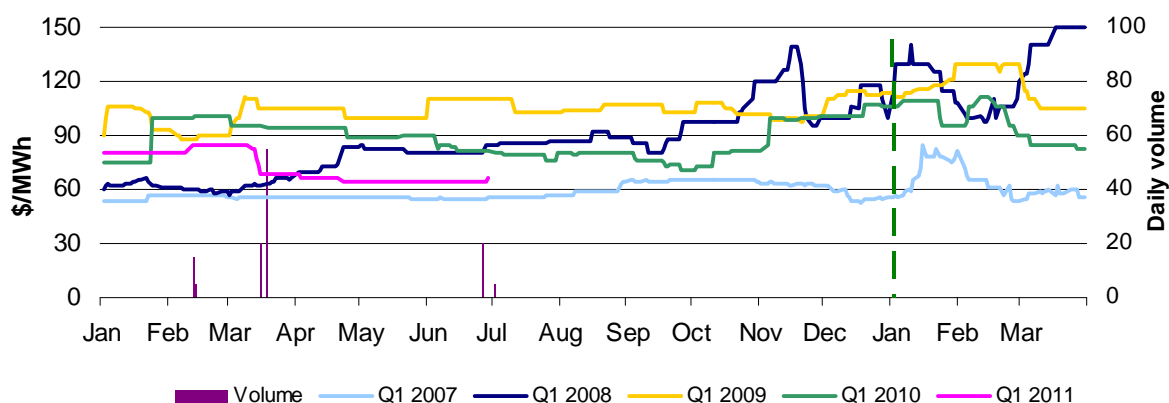
Source: d-cyphaTrade www.d-cyphatrade.com.au

Figure 8: Victoria Q1 2007, 2008, 2009, 2010 and 2011



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

Figure 9: South Australia Q1 2007, 2008, 2009, 2010 and 2011



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 National Electricity Rules to determine whether there is a significant variation between the forecast spot price published by the Australian Energy Market Operator (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 62 trading intervals throughout the week where actual prices varied significantly from forecasts⁵. This compares to the weekly average in 2009 of 103 counts. Reasons for these variances are summarised in Figure 10⁶.

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.

Figure 10: Reasons for variations between forecast and actual prices

	Availability	Demand	Network	Combination
% of total above forecast	3	42	1	8
% of total below forecast	18	17	0	11

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 301 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 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	-301	80	-51	136
NSW	745	-143	275	981
VIC	180	163	672	280
SA	17	8	298	235
TAS	3	18	163	40
TOTAL	644	126	1,357	1672

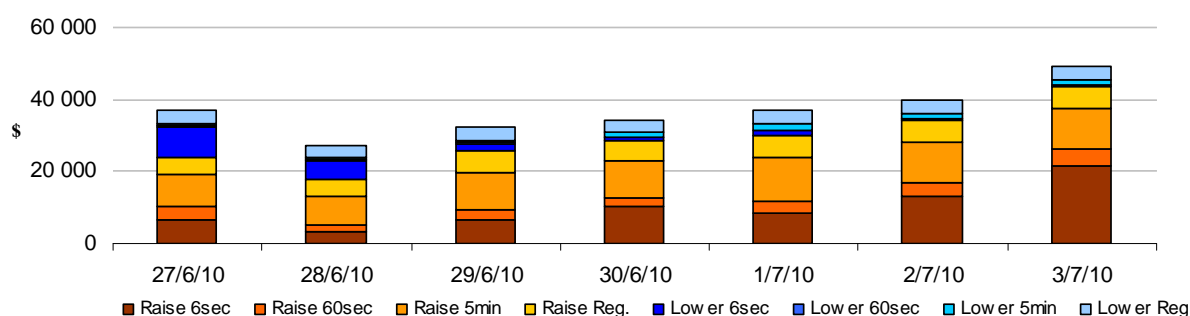
Ancillary services market

The total cost of frequency control ancillary services (FCAS) on the mainland for the week was \$182 000 or less than one per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was \$76 000 or around one per cent of energy turnover in Tasmania.

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

Figure 12: Daily frequency control ancillary service cost



Australian Energy Regulator July 2010

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

Detailed Market Analysis



27 June – 3 July 2010

New South Wales

There was one occasion where the spot price in New South Wales was greater than three times the New South Wales weekly average price of \$53/MWh and above \$250/MWh.

Tuesday, 29 June

5:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	4986.99	39.46	27.80
Demand (MW)	12 206	12 298	12 171
Available capacity (MW)	13 798	13 838	13 838

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

Network

A system normal constraint (N>>N-NIL__S)⁸ that is used to manage flows on the Mt Piper to Wallerawang line bound from 5.15 pm to 5.35 pm. This constraint affects 27 out of the 35 generating units in New South Wales, including the Wallerawang, Bayswater, Tumut and Mount Piper stations. The constraint constrained-off up to 500 MW of generation in New South Wales during this period.

The constraint also reduced imports into New South Wales from Queensland. The total flow into New South Wales from Queensland reduced from 1210 MW at 5.15 pm to 193 MW at 5.25 pm. This led to negative prices in Queensland. Furthermore, the constraint led to a 778 MW change in flows across Vic-NSW.

Rebidding

At 10.15 am, effective from the 5.30 pm trading interval, Delta Electricity rebid 60 MW of capacity at Wallerawang unit 7 from prices below \$44/MWh to above \$80/MWh. The reason given was “1014F 1015 PD Higher than 1000PD::Band shift”. A further rebid at 3.05 pm, effective from the 5 pm trading interval, shifted 50 MW from prices below \$85/MWh to above \$110/MWh. The reason given was “1459A NSW 5min disp \$ below 30 min pd:: band shift”.

At 3.02 pm, effective from the 5.30 pm trading interval, Macquarie Generation rebid up to 270 MW of capacity across Bayswater units one, two and four, from prices below \$25/MWh to above \$6200/MWh. The reason given was “1455A Expect actual loads to vary from AEMO”.

At 4.09 pm, effective from the 5.30 pm trading interval, Eraring Energy rebid 740 MW of capacity across Eraring units 1, 3 and 4 from prices below \$51/MWh to above \$9700/MWh. The reason given was “1555A NSW PD Demand/Price higher than expected”.

⁸ More information about this constraint and its impacts on dispatch can be found in the AER's *Spot prices above \$5000/MWh* reports for 7 and 17 December 2009 and 4 and 22 February 2010.

At 5.17 pm, effective from 5.25 pm, Snowy Hydro rebid the ramp down rates at Tumut three and Upper Tumut from 200 MW/min and 130 MW/min, respectively, to the minimum allowable level of 3 MW/min. The reason given was “17:16A NSW price hghr than fcast”.

The AER notes that the rebid reasons provided do 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 order to meet the requirement for the rebid reason to be brief, verifiable and specific, the 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. The AER has written to a number of participants seeking additional information with regards to the rebid reasons provided above.

There was no other significant rebidding.

Detailed NEM Price and Demand Trends

for Weekly Market Analysis
27 June - 3 July 2010



AUSTRALIAN ENERGY
REGULATOR

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

Financial year	QLD	NSW	VIC	SA	TAS
2009-10 (\$/MWh)	37	52	42	82	30
2008-09 (\$/MWh)	36	43	49	69	62
Change*	3%	23%	-14%	20%	-51%
2008-09 (\$/MWh)	36	43	49	69	62

Table 2: NEM turnover

Financial year	NEM Turnover** (\$, billion)	Energy (TWh)
2009-10	\$9.643	206
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)
Mar-10	25	27	24	25	26	0.443
Apr-10	22	25	84	32	25	0.625
May-10	22	29	32	31	61	0.509
Jun-10	23	35	33	38	32	0.563
Jul-10 (MTD)	24	31	27	35	27	0.053
Q2 2010	22	30	48	34	40	1.697
Q2 2009	32	35	34	35	106	1.918
Change*	-30%	-16%	40%	-5%	-63%	-11.51%

Table 4: ASX energy futures contract prices at end of 5 July

	QLD		NSW		VIC		SA	
	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Q1 2011								
Price on 28 Jun (\$/MW)	45	78	52	85	55	98	65	100
Price on 05 Jul (\$/MW)	45	77	52	85	55	98	66	100
Open interest on 05 Jul	1622	123	3030	185	3241	40	70	0
Traded in the last week (MW)	21	0	140	50	170	0	25	0
Traded since 1 Jan 10 (MW)	2705	94	4661	195	5288	40	120	0
Settled price for Q1 10(\$/MW)	40	65	44	68	50	89	83	160

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

Comparison:	QLD	NSW	VIC	SA	TAS	NEM
May 10 with May 09						
MW Priced <\$20/MWh	1400	-590	-619	172	155	517
MW Priced \$20 to \$50/MWh	-707	1109	57	-121	213	551
June 10 with June 09						
MW Priced <\$20/MWh	959	-520	-482	46	227	230
MW Priced \$20 to \$50/MWh	-743	378	301	-43	345	237
July 10 with July 09 (MTD)						
MW Priced <\$20/MWh	1052	533	-172	-11	-30	1373
MW Priced \$20 to \$50/MWh	-637	585	522	55	361	885

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

** Estimated value