WEEKLY MARKET ANALYSIS

AUSTRALIAN ENERGY REGULATOR

29 March-4 April 2009

Summary

The spot price exceeded $5000/MWh for one trading interval on Tuesday in South Australia. In accordance with the requirements of the National Electricity Rules (NER), the AER will be issuing a report into the circumstances of this event. The spot price in South Australia averaged $69/MWh for the week.

Average spot prices for the other mainland regions ranged from $32/MWh in Queensland to $40/MWh in Victoria.

The average spot price in Tasmania was $78/MWh. A change in Hydro Tasmania’s bidding strategy for both energy and frequency control ancillary services (FCAS) from 1 April has led to high energy and FCAS prices. The energy spot price exceeded $1500/MWh for four trading intervals in total on Wednesday, Thursday and Friday morning. The prices for the three raise contingency ancillary services all reached $5000/MWh for 12 and a half hours in total on Wednesday, Thursday and Friday morning. As a result, the cumulative price for these ancillary services reached $780 000, compared to the threshold for FCAS of $900 000. Where this threshold is breached, administered price capping of $300/MW applies.

Spot market prices

Figure 1 sets out the volume weighted average prices for 29 March to 4 April and the financial year to date across the National Electricity Market. 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)

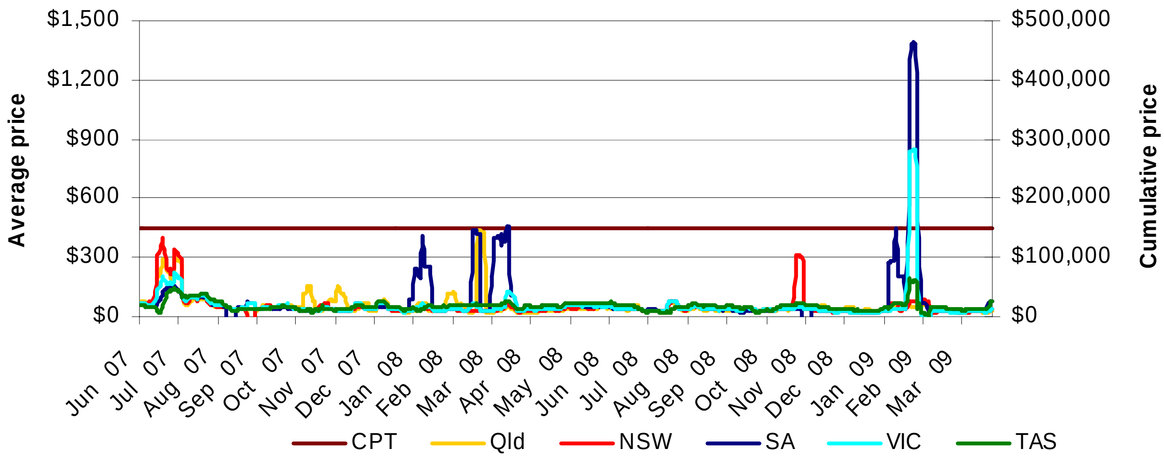
	Qld	NSW	VIC	SA	Tas
Average price for 29 March – 4 April	32	39	40	69	78
Financial year to 4 April	38	45	54	79	48
% change from previous week*	34%	59%	65%	158%	111%
% change from previous year to date**	-41%	0%	5%	-33%	-13%

*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 at 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 6 April. Figure 3 shows the base futures contract prices for the next three financial 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 2009-10	44	-1%	46	-2%*	49	0%	58	0%
Financial 2010-11	51	3%	54	-1%	57	0%	66	0%
Financial 2011-12	63	0%	64	0%	66	0%	69	0%
Three year average	53	0%	55	-2%	57	1%	65	0%

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

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

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

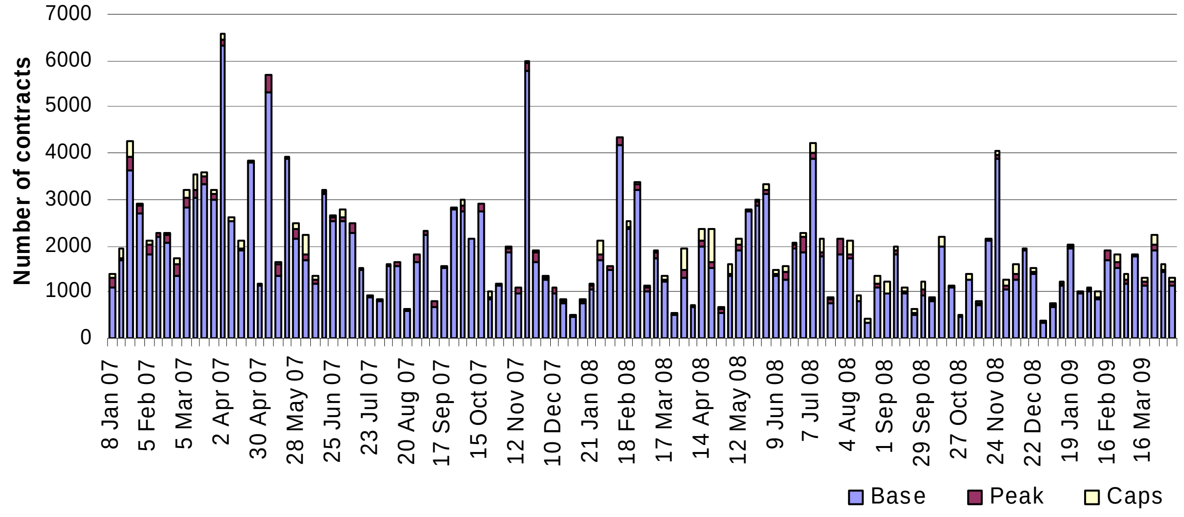
	QLD		NSW		VIC		SA	
Q1 2009 price	3	-48%	5	0%	28	0%	65	-28%
Calendar 2009	5	-6%	6	3%	10	-7%	21	-23%

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.

[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.

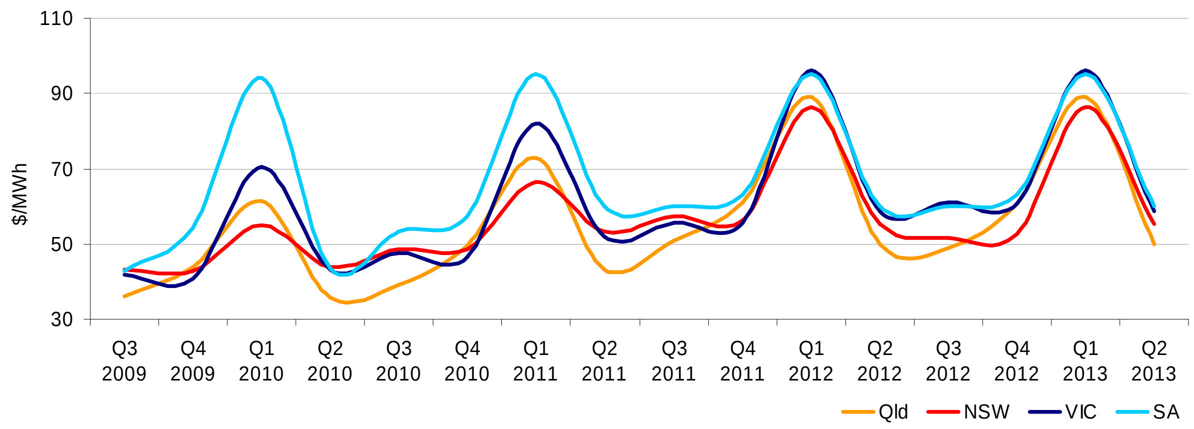
Figure 5: Number of exchange traded contracts per week



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

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

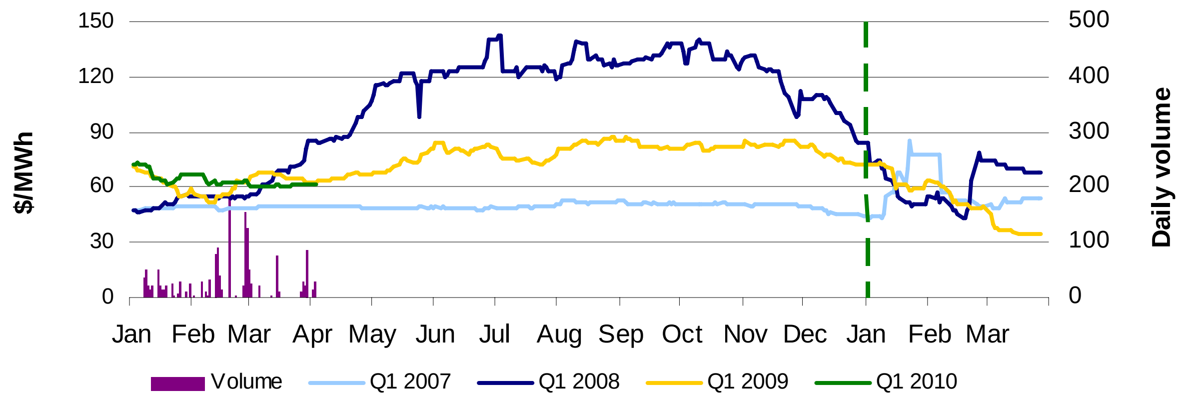
Figure 6: Quarterly base future prices 2009 - 2012



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

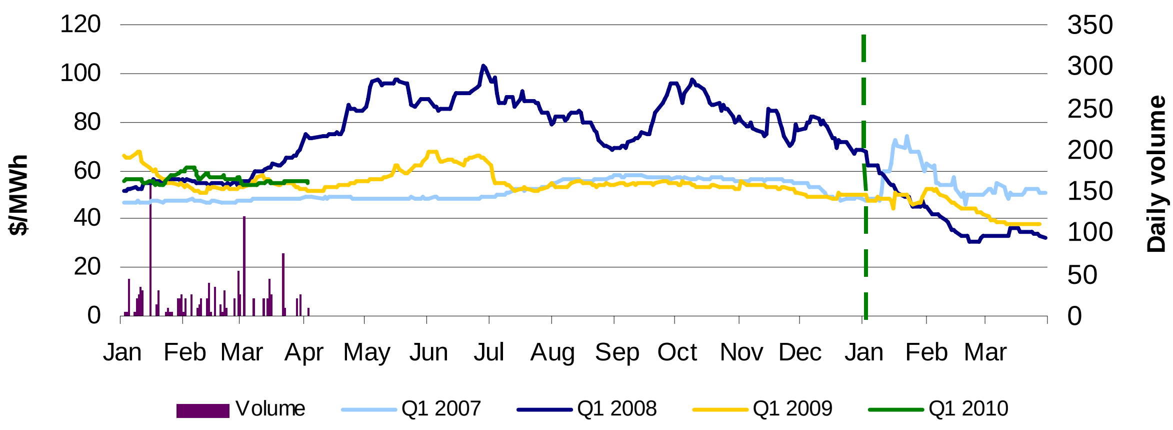
Figures 7-10 compare for each region the closing daily base contract prices for the first quarter of 2007, 2008, 2009 and 2010. Also shown is the daily volume of Q1 2010 base contracts traded. The vertical dashed line signifies the start of the Q1 period.

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



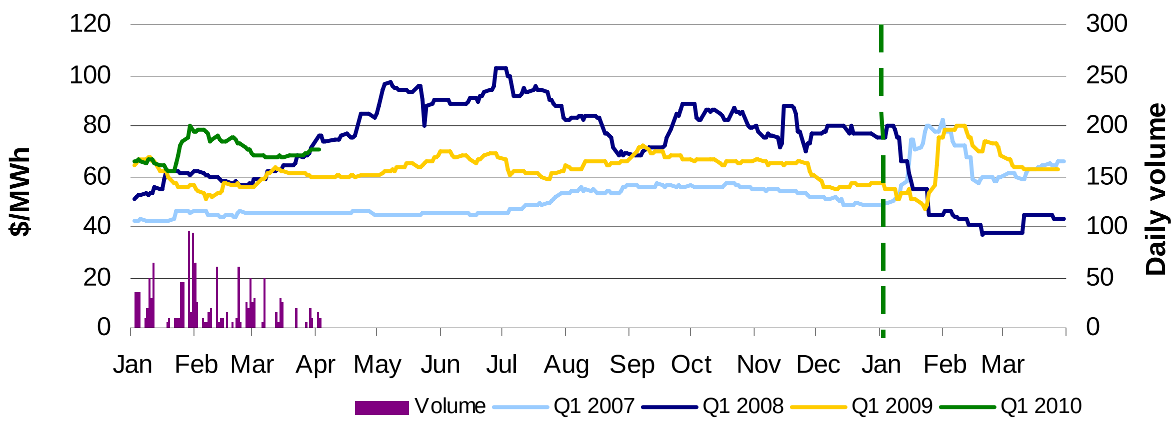
Source: d-cyphaTrade www.d-cyphatrade.com.au

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



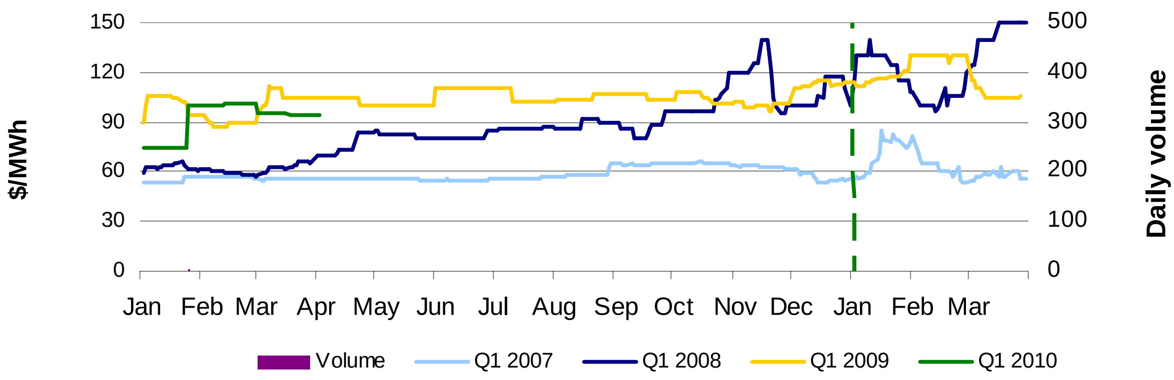
Source: d-cyphaTrade www.d-cyphatrade.com.au

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 NEMMCO and the actual spot price and, if there is a variation, 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 104 trading intervals where actual prices significantly varied from forecasts[2] throughout the week. This compares to the weekly average in 2008 of 130 counts. Reasons for these variances are summarised in Figure 11[3].

Figure 11: Reasons for variations between forecast and actual prices

	Availability	Demand	Network	Combination
% of total above forecast	0%	10%	0%	0%
% of total below forecast	90%	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 the peak periods only[4]. For example, in Queensland 455 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 times

MW	<$20/MWh	Between $20 and $50/MWh	Total availability	Change in average demand
Queensland	455	12	327	183
New South Wales	-940	-594	-1535	-391
Victoria	-54	9	-204	232
South Australia	69	119	50	167
Tasmania	25	-66	41	8
Total	-445	-520	-1321	199

2 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.

3 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.

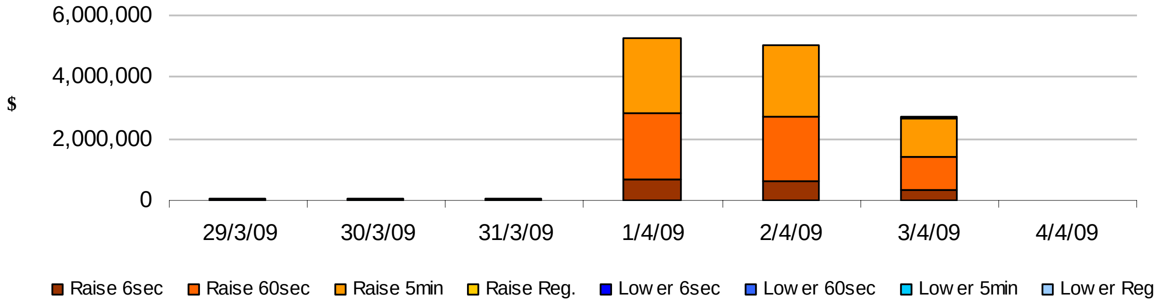
4 Peak period is defined as between 7 am and 10 pm on weekdays, which aligns with the SFE contract definition.

Ancillary services market

The total cost of FCAS on the mainland for the week was $176 000 or less than one per cent of turnover in the energy market.

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

Figure 13: Daily frequency control ancillary service cost



The total cost of FCAS in Tasmania for the week was $13 million, the same as turnover in the energy market in Tasmania. The prices for the raise 6-second, 60-second and 5-minute contingency FCAS all reached $5000/MWh for 12 and a half hours from Wednesday to Friday. Hydro Tasmania bid all of it raise contingency services at $5000/MWh during these times. Hydro Tasmania is the only participant registered to provide FCAS in Tasmania and consequently receives all revenue for Tasmanian FCAS.

Raise contingency services costs over the three day period accounted for almost the entire cost of FCAS in Tasmania for the week. These services are paid for by generators pro-rata to their output. For the three days, FCAS payments made by Hydro Tasmania totalled around $10 million, and FCAS payments by Aurora (for its Bell Bay Three Power Station) totalled $340 000. Significant costs were also incurred by the Roaring 40s, owners of the non-scheduled Woolnorth Wind Farm[5].

Aurora acquired the Bell Bay Three Power Station (Bell Bay Three), which consists of three 40 MW gas turbine generators, in late 2008. However, Bell Bay Three was being refurbished during the period since Aurora acquired the station. Bell Bay Three (now registered as Tamar Valley Power Station Units 1-3) commenced commercial operation on 1 April 2009. Bell Bay Three is not registered to provide ancillary services and as such receives no revenue in the ancillary services markets, but if Bell Bay Three is generating, Aurora must pay for raise ancillary services in proportion to the Bell Bay Three output.

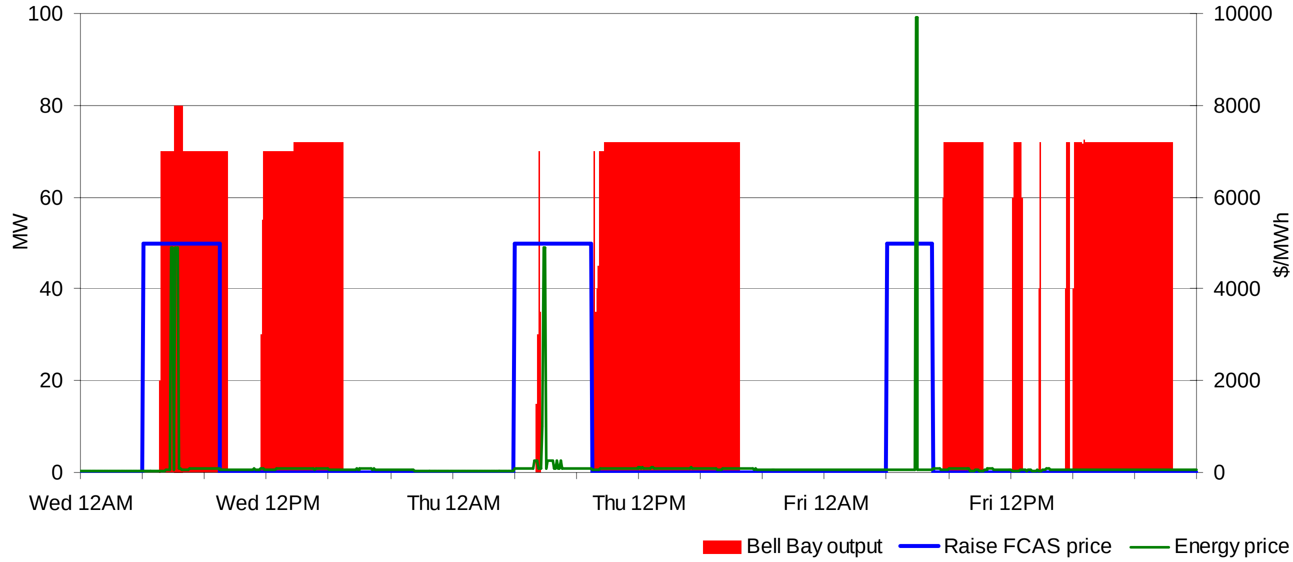
On 1 April Aurora was liable for payments of around $330 000 for ancillary services for Bell Bay Three, but received around $200 000 from the spot market for generation output from the station.

On 1 April Hydro Tasmania changed its bidding strategy to price all raise FCAS for periods of the day at $5000/MW (prior to that time these services were priced at $2/MW). This continued into Thursday and Friday and led to prices for all raise contingency services at these times reaching $5000/MW. During the high priced FCAS periods Hydro Tasmania also offered two−thirds of its capacity in the energy market at just under $5000/MWh.

5 Other non-scheduled generators in Tasmania were also exposed to these high costs.

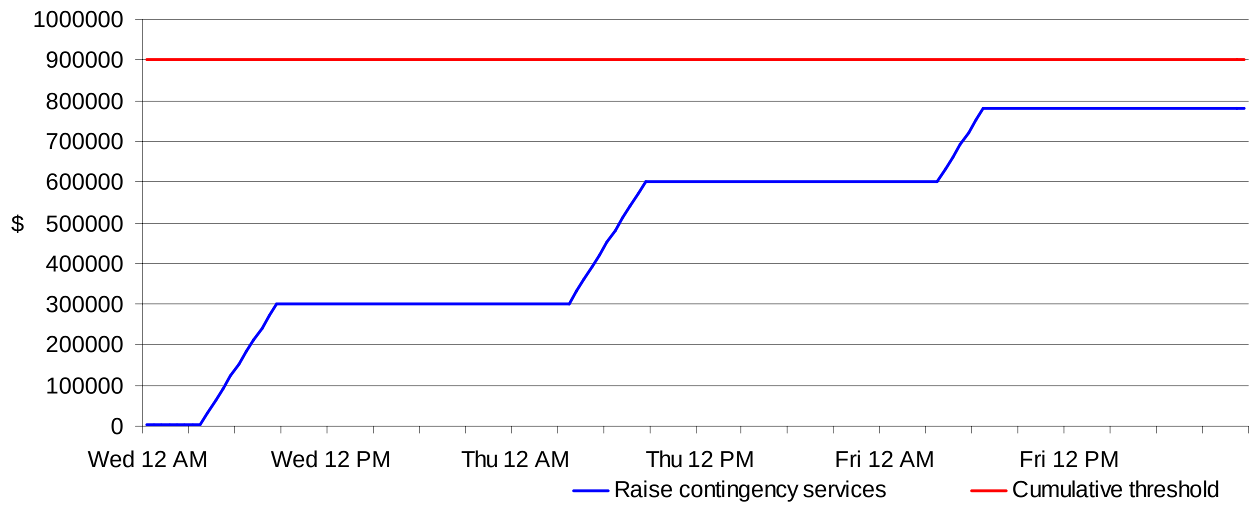
Figure 14 shows Bell Bay Three's output from 1 April to 3 April inclusive as well as the prices for raise contingency FCAS and energy.

Figure 14: Bell Bay Three's output and price for raise services



The administered price cap in ancillary services ($300/MW) is invoked if the sum of the ancillary service prices in the previous 2016 dispatch intervals exceeds six times the cumulative price threshold (CPT) of $150 000. The cumulative price for each of the raise contingency services (6-second, 60-second and 5-minute) for the week reached almost $780 000. Figure 15 shows the cumulative price for raise contingency services on Wednesday, Thursday and Friday. The cumulative price for each of the raise contingency services were very similar to each other. This is reflected by the single blue line in the figure.

Figure 15: Cumulative price of raise contingency services



Australian Energy Regulator

April 2009

Detailed Market Analysis

AUSTRALIAN ENERGY REGULATOR

29 March-4 April 2009

Queensland: There was one occasion where the spot price in Queensland was greater than three times the Queensland weekly average price of $32/MWh.

Wednesday, 1 April

2:30 pm	Actual	4 hr forecast	12 hr forecast
Price ($/MWh)	101.08	54.40	54.40
Demand (MW)	7543	7316	7245
Available capacity (MW)	9388	10 191	10 400

Conditions at the time saw demand 230 MW higher than forecast four hours ahead. Available capacity was 800 MW lower than that forecast four hours ahead.

Over two rebids at 1.38 pm and 1.46 pm CS Energy reduced the capacity of Kogan Creek by 729 MW (all of which was priced below $15/MWh) to zero. The reason given was “KPP_1 Mill blockage”.

There was no other significant rebidding.

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 $39/MWh.

Thursday, 2 April

3:30 pm	Actual	4 hr forecast	12 hr forecast
Price ($/MWh)	118.20	39.52	43.06
Demand (MW)	9990	9828	9827
Available capacity (MW)	11 059	11 747	11 945

Conditions at the time saw demand 160 MW higher than that forecast four hours ahead. Available capacity was 690 MW lower than that forecast four hours ahead.

At 12.33 pm Delta Electricity extended the outage of its 700 MW Mount Piper unit two after a trip in the morning. The majority of this capacity was priced below $25/MWh.

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 $69/MWh.

Tuesday, 31 March

4:30 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	1711.87	300.00	55.77
Demand (MW)	2160	2146	2133
Available capacity (MW)	2408	2428	2366
5:00 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	5022.35	300.00	55.77
Demand (MW)	2094	2142	2126
Available capacity (MW)	2101	2428	2364

Conditions at the time saw demand close to forecast and available capacity 330 MW lower than that forecast four hours ahead.

Murraylink was out of service and imports across the Heywood interconnector were limited to 340 MW. At 4.29 pm Flinders Powers Northern Power Station Unit two tripped and the dispatch price reached the price cap for four dispatch intervals from 4.30 pm. In accordance with clause 3.13.7 of the NER, the AER will issue a separate report into the circumstances that led to the spot price exceeding $5000/MWh.

Tasmania: There were five occasions where the spot price in Tasmania was greater than three times the Tasmania weekly average price of $78/MWh.

Wednesday, 1 April

6:00 am	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	1670.06	4900.16	4900.16
Demand (MW)	1039	1038	1060
Available capacity (MW)	1994	1994	1994
6:30 am	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	2489.28	4900.28	4900.28
Demand (MW)	1058	1131	1153
Available capacity (MW)	2004	1994	1994

A change in bidding strategy in both the FCAS market (discussed in the Ancillary services market section above) and in energy saw Hydro Tasmania bid up to 1400 MW of generation at $4900/MWh between 4 am and 9 am in its day ahead offers. This resulted in five trading intervals during that period having forecast prices of $4900/MWh, none of which eventuated.

There was no capacity priced between $46/MWh and $4600/MWh, so small changes in demand or interconnector flows saw five-minute prices at less than $100/MWh or $4900/MWh for the 5.35 am to 6.30 am dispatch intervals.

There was no significant rebidding.

Thursday, 2 April

6:00 am	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	1847.53	94.78	1000.30
Demand (MW)	977	1021	1030
Available capacity (MW)	1967	2018	1948
6:30 am	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	234.36	262.28	1000.30
Demand (MW)	1028	1110	1118
Available capacity (MW)	1948	1948	1948

Conditions at the time saw demand slightly lower than that forecast four and 12 hours ahead. Available capacity was lower than that forecast four hours ahead for the 6 am trading interval and the same as forecast four hours ahead for the 6.30 am trading interval. Price was close to forecast for the 6.30 am trading interval.

Hydro Tasmania bid up to 1300 MW of generation at $4900/MWh between 4 am and 9 am in its day ahead offers. This resulted in five trading intervals during that time having forecast prices of $1000/MWh and above, of which only one eventuated.

At 6.01 pm the previous evening Aurora increased the availability of Bell Bay Three units two and three by 70 MW (all of which was priced at $0/MWh).

At around 5.30 am, effective for the 6 am trading interval, Aurora reduced the available capacity of Bell Bay Three units two and three by a total of 70 MW (all of which was priced below zero). The reason given was “Actual price(s) not as expected”.

Between 5.50 am and 6 am there was an increase in demand of 20 MW resulting in the dispatch of up to 17 MW of generation priced at $4900/MWh at 5.55 am and 6 am.

There was no other significant rebidding.

Friday, 3 April

6:00 am	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	3346.65	9900.28	499.24
Demand (MW)	976	1077	1059
Available capacity (MW)	1961	1968	1995

Conditions at the time saw demand 100 MW below than that forecast four hours ahead. Demand forecast four hours ahead was greater than that forecast 12 hours ahead. Available capacity was close to that forecast four and 12 hours ahead.

Hydro Tasmania bid around 1300 MW of generation at or above $4900/MWh between 4 am and 7 am in its day ahead offers, (with 1274 MW priced at close to the cap for the 6 am trading interval). There was no capacity priced between $500/MWh and $4900/MWh. This resulted in fluctuating forecast prices with six trading intervals during that time having forecast prices above $1000/MWh, of which only one eventuated. Between 5.50 am and 6 am there was an increase in demand of 90 MW resulting in the dispatch of generation priced at $9900/MWh at 5.55 am and 6 am.

At 5.53 am (effective from 6 am) Aurora reduced the available capacity of Bell Bay Three units two and three by a total of 45 MW (all of which was priced below $500/MWh). The reason given was “Actual price(s) not as expected”. There was no other significant rebidding.

Detailed NEM Price and Demand Trends

AUSTRALIAN ENERGY REGULATOR

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

Financial year	QLD	NSW	VIC	SA	TAS
2008-09 ($/MWh) YTD	38	45	54	79	48
2007-08 ($/MWh) YTD	64	45	52	118	55
Change*	-41%	0%	5%	-33%	-13%
2007-08 ($/MWh)	58	44	51	101	57

Table 2: NEM turnover

Financial year	NEM Turnover** ($, billion)	Energy (TWh)
2008-09 YTD	$7.604	159
2007-08	$11.125	208
2006-07	$12.695	206
Change (2006-07 to 2007-08)	-12%	0.8%

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)
Dec-08	36	25	23	26	33	0.476
Jan-09	44	57	190	374	85	1.962
Feb-09	42	47	38	47	40	0.709
Mar-09	27	26	26	35	37	0.466
Apr-09 MTD	38	48	50	48	108	0.109
Q4 2008	39	51	34	32	44	2.133
Q4 2007	56	41	44	46	44	2.345
Change*	-29%	23%	-23%	-30%	0%	-0.48%

Table 4: ASX energy futures contract prices at end of Q1 2009

	QLD		NSW		VIC		SA	
Q1 2009	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Price on 30 Mar ($/MW)	35	49	38	50	63	115	106	200
Settled price for Q1 09($/MW)	35	48	38	48	62	114	102	200
Open interest on 31 Mar	2510	263	2812	232	2277	459	247	20
Traded in the last week (MW)	0	0	20	1	20	0	0	0
Traded since 1 Jan 08	6228	544	6864	296	5383	822	529	40
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	VIC	SA	TAS	NEM
February 09 with February 08						
MW Priced <$20/MWh	-373	32	-3	72	33	-241
MW Priced $20 to $50/MWh	328	141	149	-89	10	539
March 09 with March 08						
MW Priced <$20/MWh	-557	-386	119	-246	-50	-1121
MW Priced $20 to $50/MWh	562	347	129	-1	-2	1035
April 09 with April 08						
MW Priced <$20/MWh	-223	-515	787	475	-130	394
MW Priced $20 to $50/MWh	664	-364	-477	68	-43	-152

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