

5 MARCH – 11 MARCH 2006

Prices for the week were generally aligned across the market. Spot prices for the week averaged from \$25/MWh in Victoria to \$29/MWh in South Australia.

Turnover in the energy market was \$105 million. The total cost of ancillary services for the week, including Tasmania, was \$278 000, or around 0.3 per cent of the energy market.

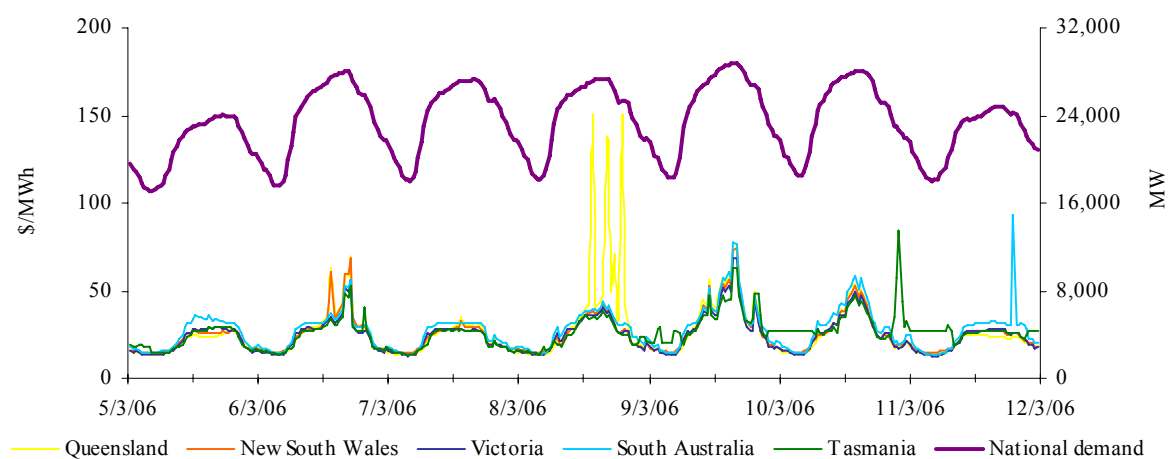
On March 10 the AER determined that Directlink was eligible to become a regulated interconnector.

Significant variations between actual prices and those forecast 4 and 12 hours ahead occurred in 68, or around 20 per cent of all trading intervals. Demand forecasts produced 4 and 12 hours ahead varied from actual by more than 5 per cent in a quarter of all trading intervals across the market. These variations were most frequent in South Australia occurring in around two thirds of all trading intervals.

## Energy prices

Figure 1 sets out national demand and spot prices in each region for each trading interval. Figure 2 compares the volume weighted average price with the averages for the previous week, the same quarter last year and for the financial year to date. Figure 3 compares the weekly price volatility index with the averages for the previous week and the same quarter last year.

**Figure 1: national demand and spot prices**



**Figure 2: volume weighted average spot price for energy market (\$/MWh)**

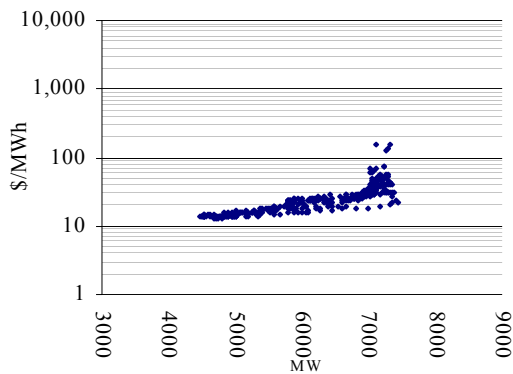
	QLD	NSW	VIC	SA	TAS
Last week	28	26	25	29	26
Previous week	21	23	26	31	31
Same quarter last year	25	35	22	31	-
Financial year to date	35	50	39	47	70
% change from previous week	▲34%	▲16%	▼1%	▼6%	▼15%
% change from same quarter last year	▲12%	▼25%	▲14%	▼7%	-
% change from year to date	▲1%	▼6%	▲30%	▲15%	-

**Figure 3: volatility index during peak periods**

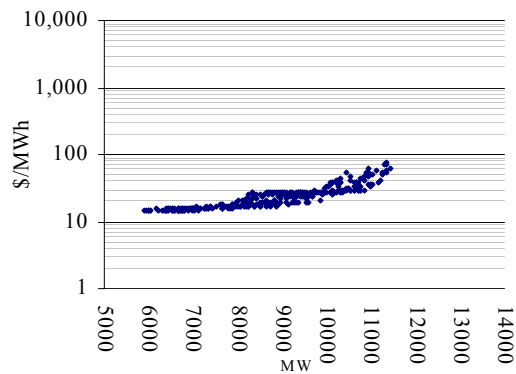
	QLD	NSW	VIC	SA	TAS
Last week	1.07	0.93	0.82	0.82	0.82
Previous week	0.90	0.92	1.00	0.94	0.23
Same quarter last year	0.73	0.74	0.78	0.70	-

Figures 4 to 8 show the weekly correlation between spot price and demand.

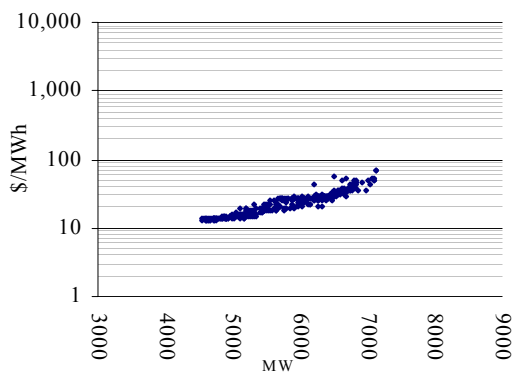
**Figure 4: Queensland**



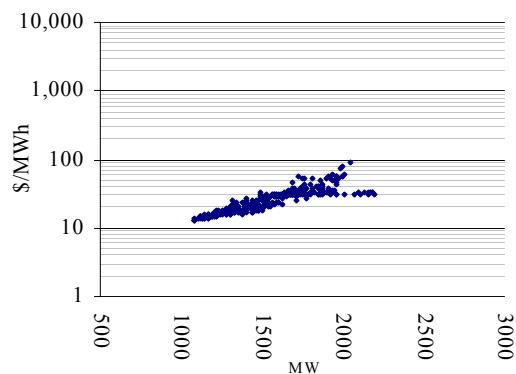
**Figure 5: New South Wales**



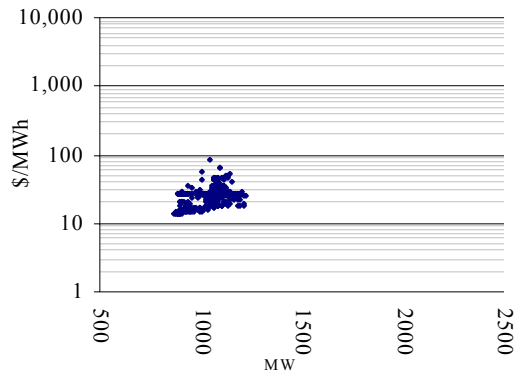
**Figure 6: Victoria**



**Figure 7: South Australia**



**Figure 8: Tasmania**



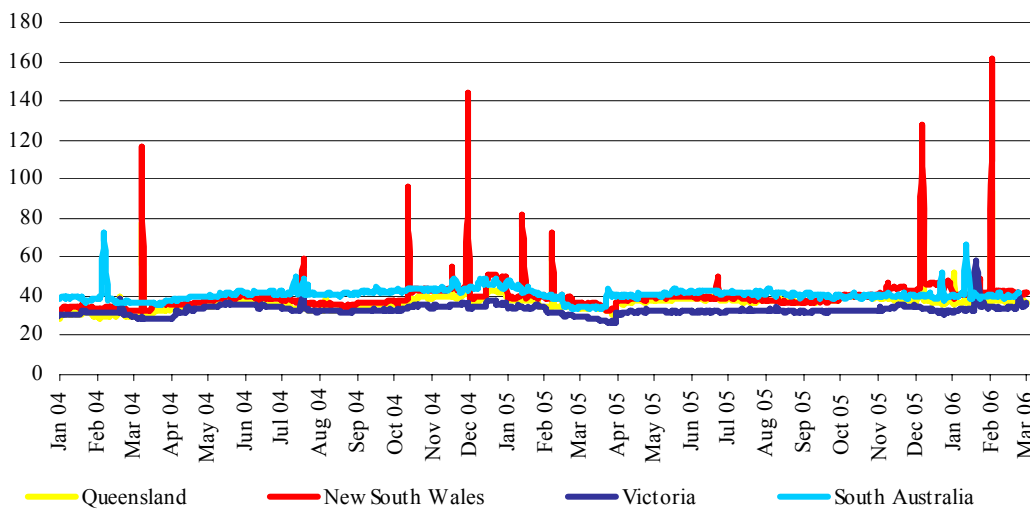
Maximum spot prices reached \$151/MWh in Queensland early on Wednesday afternoon. Other maximum prices ranged from \$93/MWh in South Australia to \$69/MWh in Victoria.

Figure 9 sets out the d-cyphaTrade wholesale electricity price index (WEPI) for each region throughout the week excluding Tasmania. Figure 10 sets out the WEPI since 1 January 2004.

**Figure 9: d-cyphaTrade WEPI for the week**

	Monday	Tuesday	Wednesday	Thursday	Friday
Queensland	37.16	35.61	35.95	36.20	36.01
New South Wales	40.14	38.91	38.78	39.75	39.46
Victoria	34.67	34.97	35.20	35.37	35.19
South Australia	39.22	39.81	40.37	40.53	40.38

**Figure 10: d-cyphaTrade WEPI**



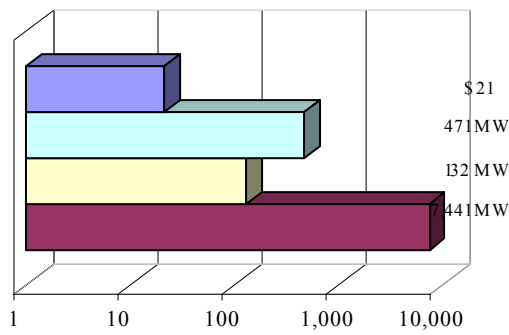
## Reserve

There were no low reserve conditions forecast for the week.

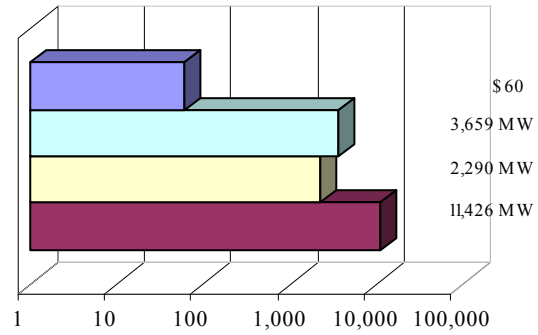
Figures 11 to 15 show spot price, net imports and limits at the time of weekly maximum demand.

*Figure`s 11 to 15: spot price, net import and limit at time of weekly maximum demand*

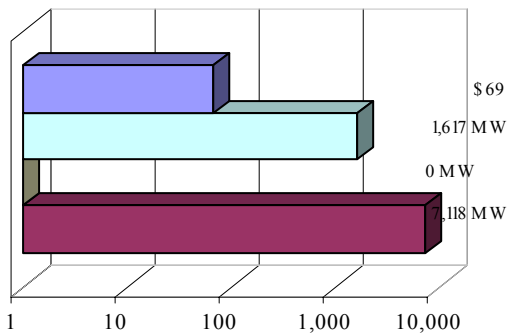
**Figure 11: Queensland**



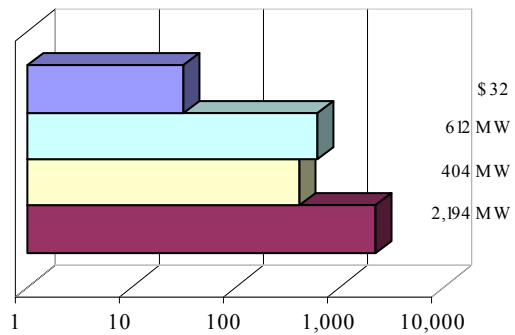
**Figure 12: New South Wales**



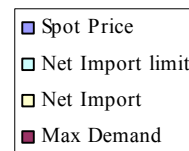
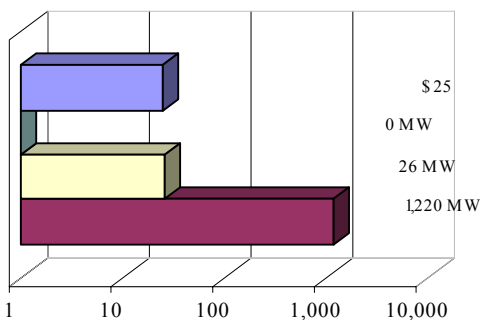
**Figure 13: Victoria**



**Figure 14: South Australia**



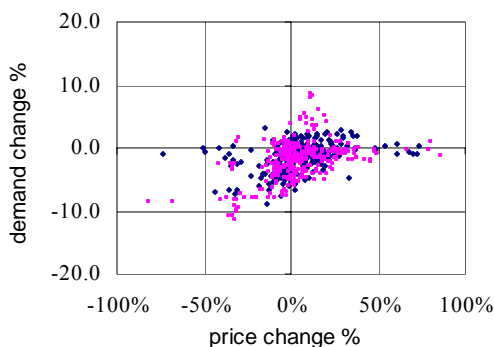
**Figure 15: Tasmania**



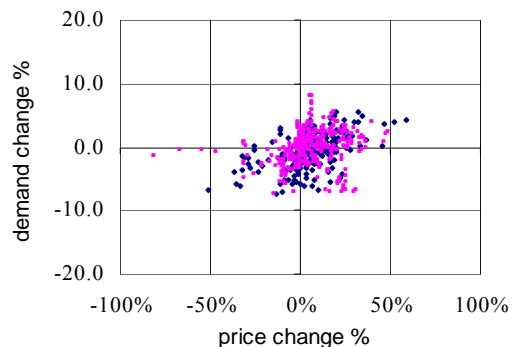
**Price variations**

There were 68 trading intervals where actual prices significantly varied from forecasts made 4 and 12 hours ahead of dispatch. Figures 16 to 20 show the difference in actual and forecast price versus the difference in actual and forecast demand. The figures highlight the correlation between price variation and demand forecast error. The information is presented in terms of the percentage difference from actual. Price differences beyond 100 per cent have been capped.

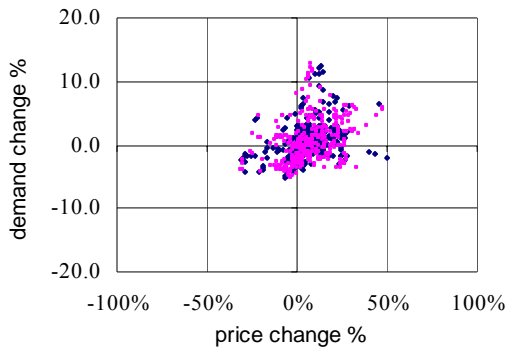
**Figure 16: Queensland**



**Figure 17: New South Wales**



**Figure 18: Victoria**



**Figure 19: South Australia**



**Figure 20: Tasmania**

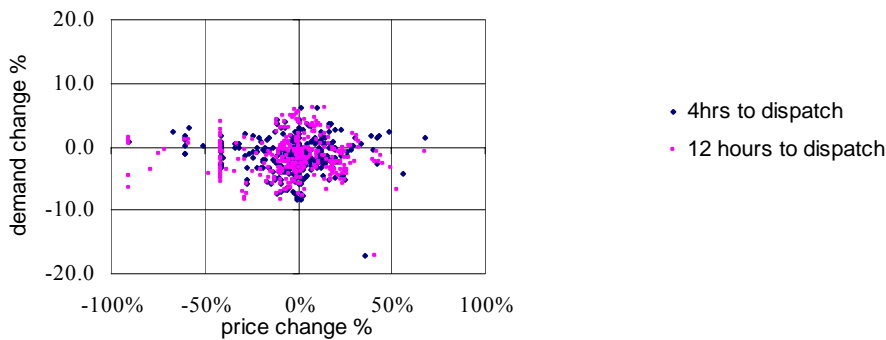


Figure 21 summarises the number and most probable reason for variations between forecast and actual prices.

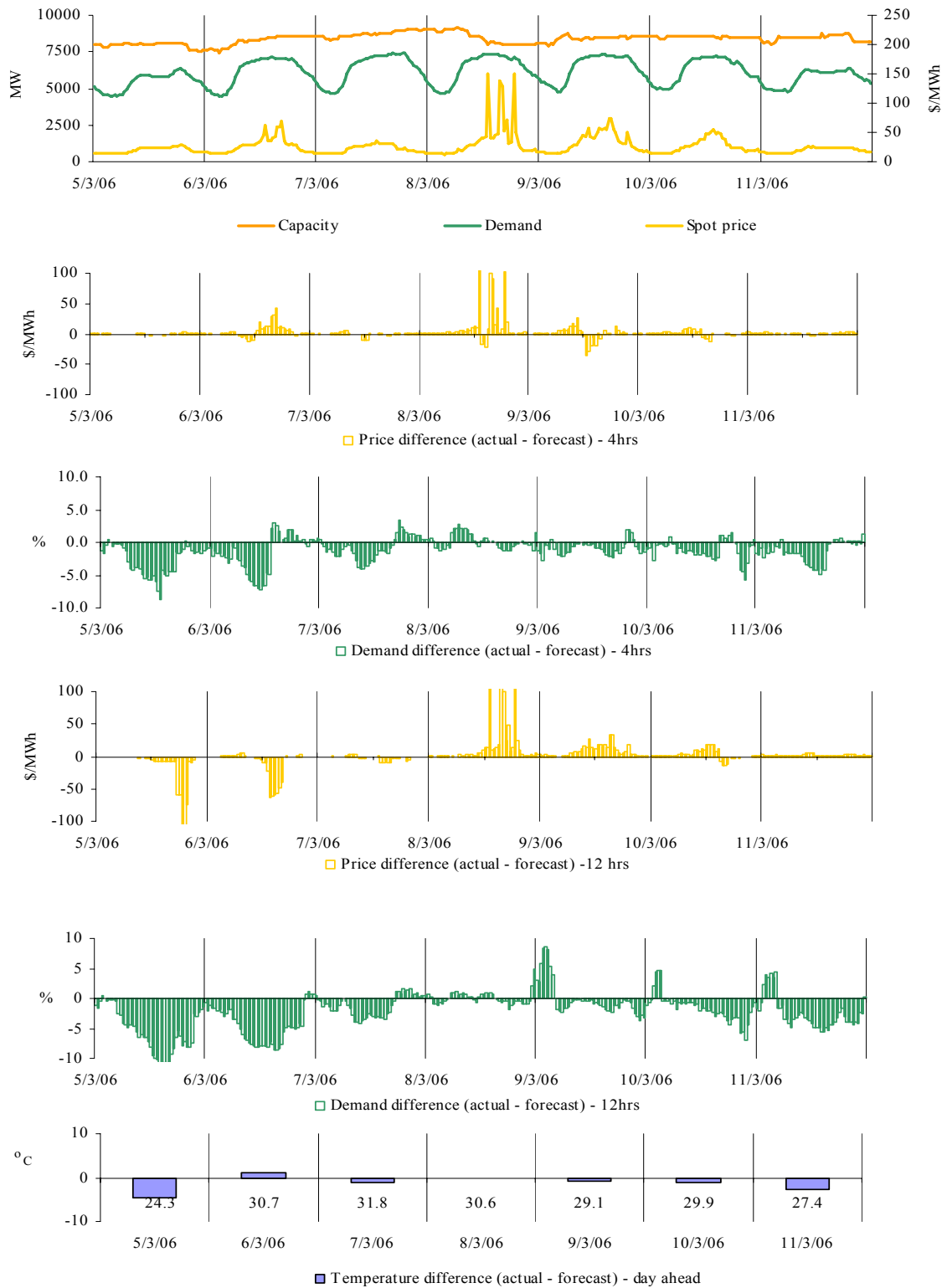
**Figure 21: reasons for variations between forecast and actual prices**



### Price and demand

Figures 22 - 51 set out details of spot prices and demand on a regional basis. They include the actual spot price, actual demand outcomes and variation from forecasts made 4 and 12 hours ahead of dispatch on a daily basis. The differences between the maximum temperature and the temperature forecast at around 6.00 pm the day before are also included. Figures 52 - 56 set out for each region the extent of capacity offered into the market within a series of price thresholds. Actual price and generation dispatched in a region are overlaid.

**Figures 22-27: Queensland actual spot price, demand and forecast differences**



There were 4 occasions in Queensland where the spot price was greater than three times the weekly average price of \$28/MWh. These occurred on Wednesday afternoon.

### Wednesday, 8 March

<b>1:30 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	151.05	40.28	29.09
Demand (MW)	7310	7291	7238
Available capacity (MW)	8037	8958	9256
<b>4:00 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	137.16	37.59	28.47
Demand (MW)	7277	7345	7297
Available capacity (MW)	8061	9037	9291
<b>4:30 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	127.57	37.64	27.07
Demand (MW)	7260	7331	7291
Available capacity (MW)	8046	9004	9291

Conditions at the time saw available capacity around 900MW lower than forecast. At 9am, Callide Power's Callide C unit 4 tripped from 415MW. The rebid reason given was "plant failure". From 12.40pm, Tarong Energy began reducing the availability of Tarong North from 440MW towards zero. The unit was shut down at 4.00pm. The reason given was "P Ashing::Adjust profile".

There was no other significant rebidding.

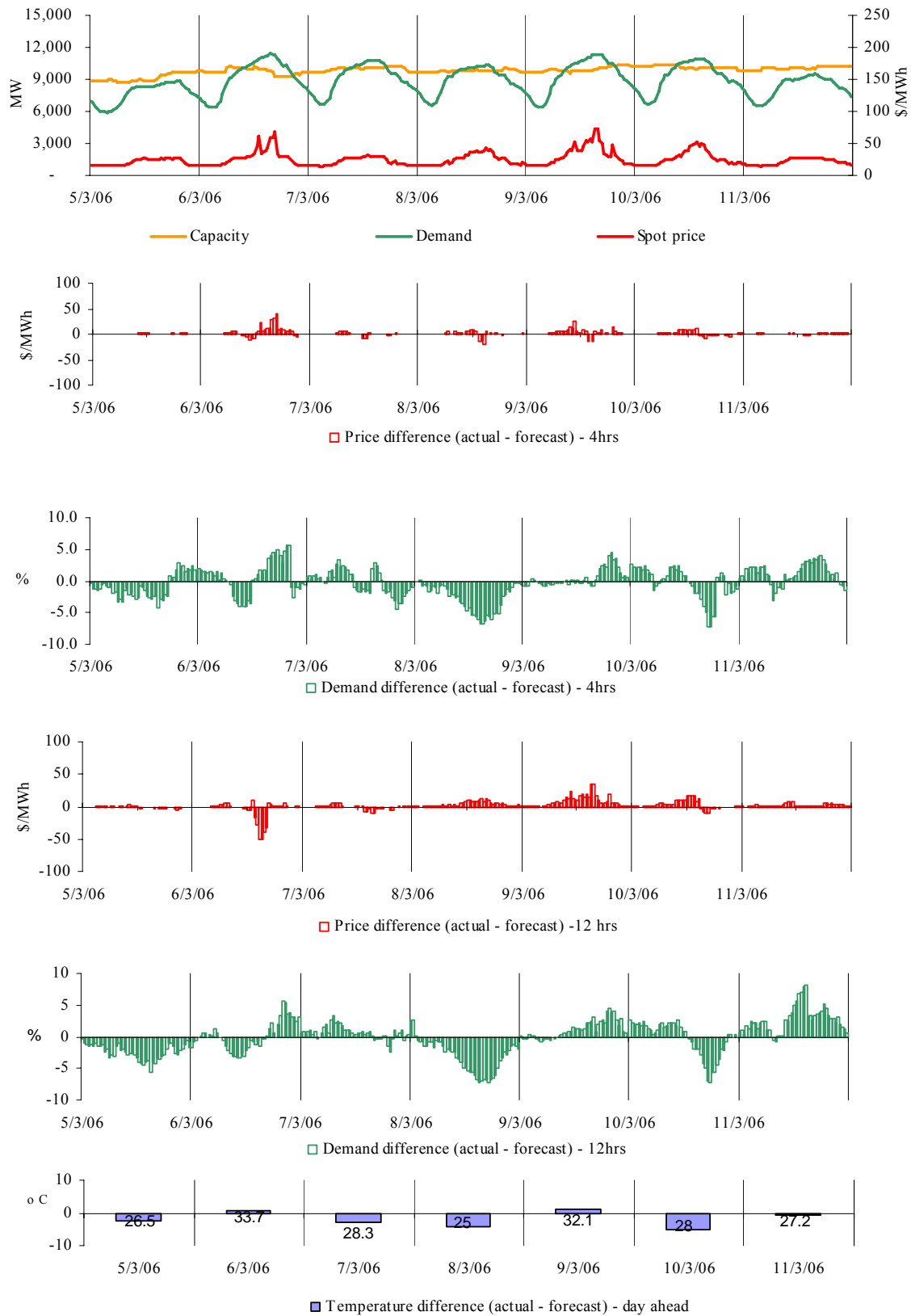
### Wednesday, 8 March

<b>7:00 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	150.84	48.00	20.72
Demand (MW)	7122	7168	7202
Available capacity (MW)	7988	8075	9271

Conditions at the time saw demand and available capacity close to that forecast four hours ahead. At 4.45 pm, Enertrade shifted a total of 200 MW of capacity at Gladstone from prices of less than \$80/MWh, half of which was priced at \$28/MWh or less to \$250/MWh. The rebid reason given was "material change in market conditions::change MW distribution".

There was no other significant rebidding.

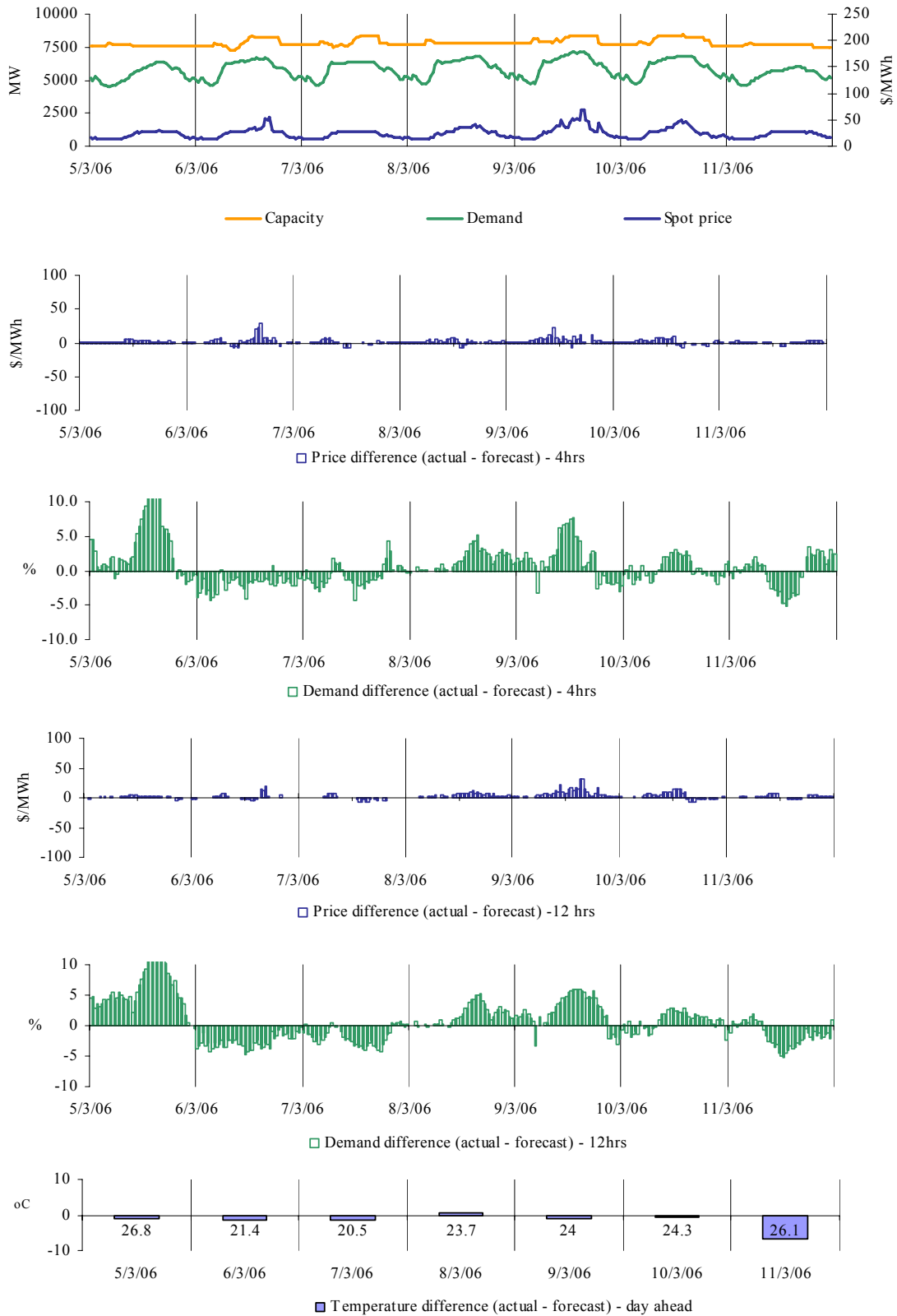
**Figures 28-33 New South Wales actual spot price, demand and forecast differences**



There was no occasion in New South Wales where the spot price was greater than three times the weekly average price of \$26/MWh.

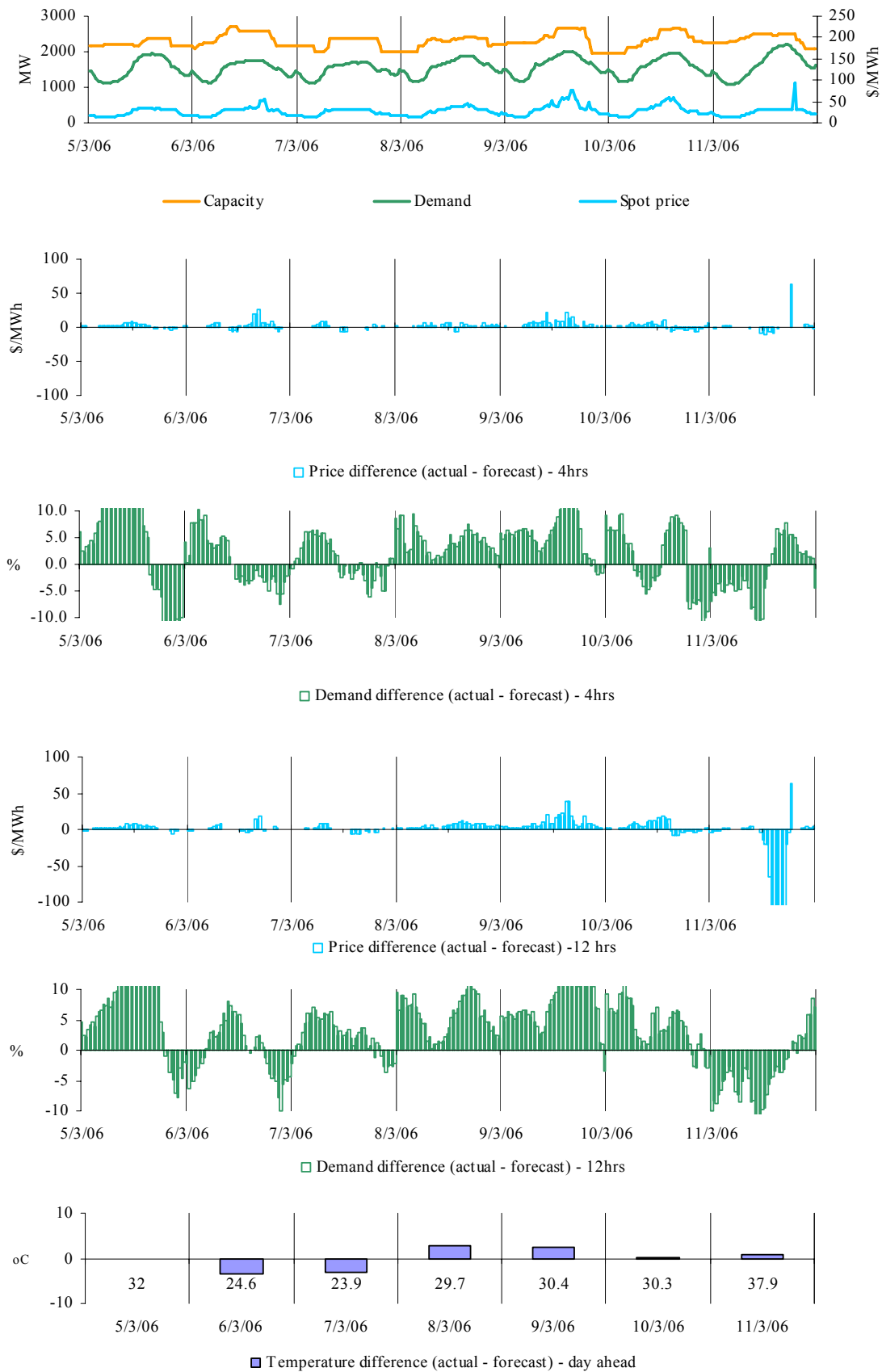


**Figures 34-39: Victoria actual spot price, demand and forecast differences**



There was no occasion in Victoria where the spot price was greater than three times the weekly average price of \$25/MWh.

**Figures 40-45: South Australia actual spot price, demand and forecast differences**



There was one occasion in South Australia where the spot price was greater than three times the weekly average price of \$29/MWh. This occurred at 7 pm on Saturday.

### **Saturday, 11 March**

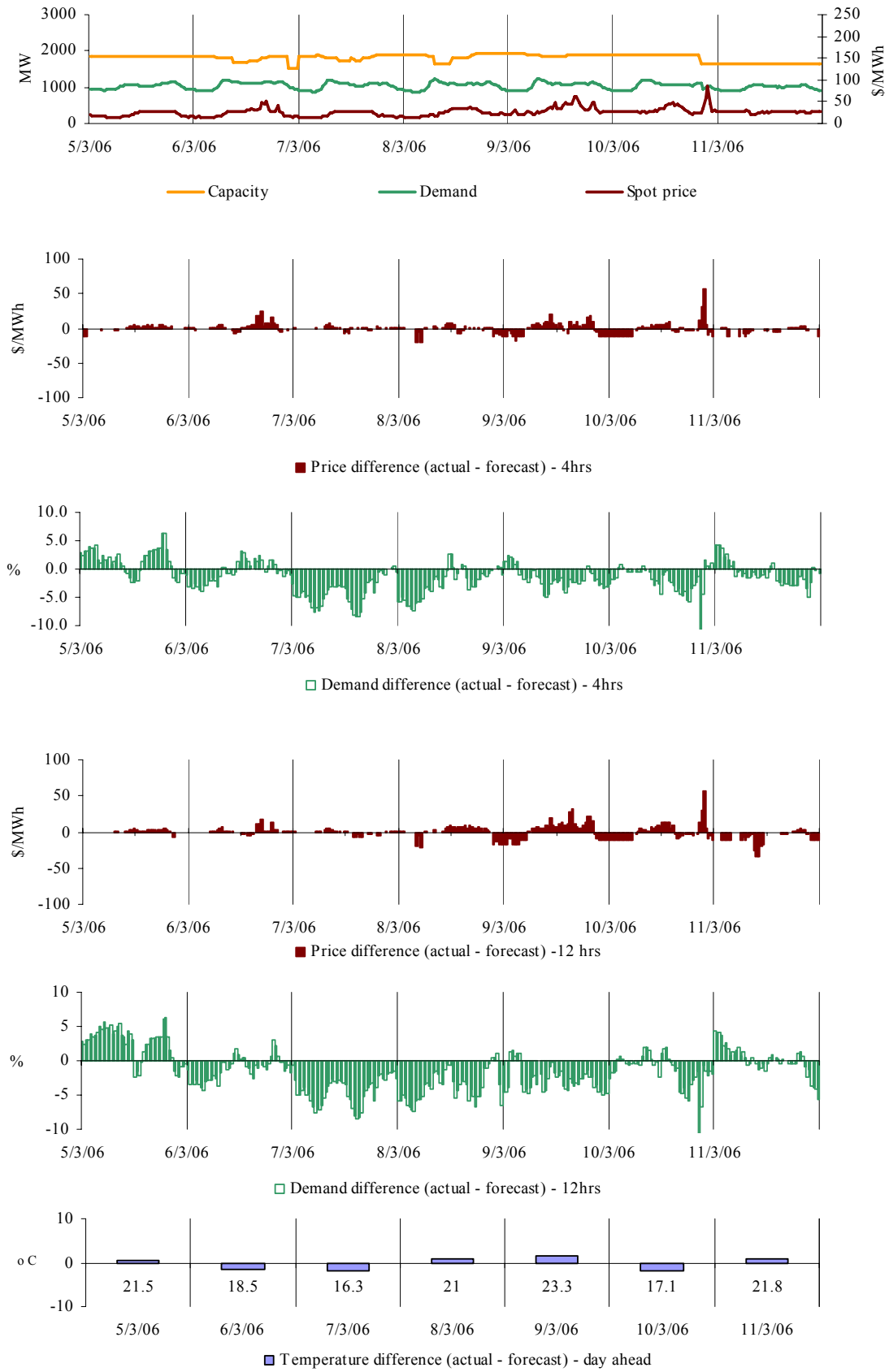
<b>7:00 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	93.38	30.80	30.80
Demand (MW)	2041	1925	2009
Available capacity (MW)	2483	2367	2515

Conditions at the time saw demand and available capacity around 100 MW higher than forecast.

At 6.15pm Murraylink's transfer capability from Victoria to South Australia was reduced from 230MW to 30MW, as a result of a control problem. The Heywood interconnector was importing at its limit of 460MW during this period.

There was no significant rebidding.

**Figures 46-51: Tasmania actual spot price, demand and forecast differences**



There was one occasion where the spot price in Tasmania was greater than three times the weekly average price of \$26/MWh. This occurred at 10 pm on Friday.

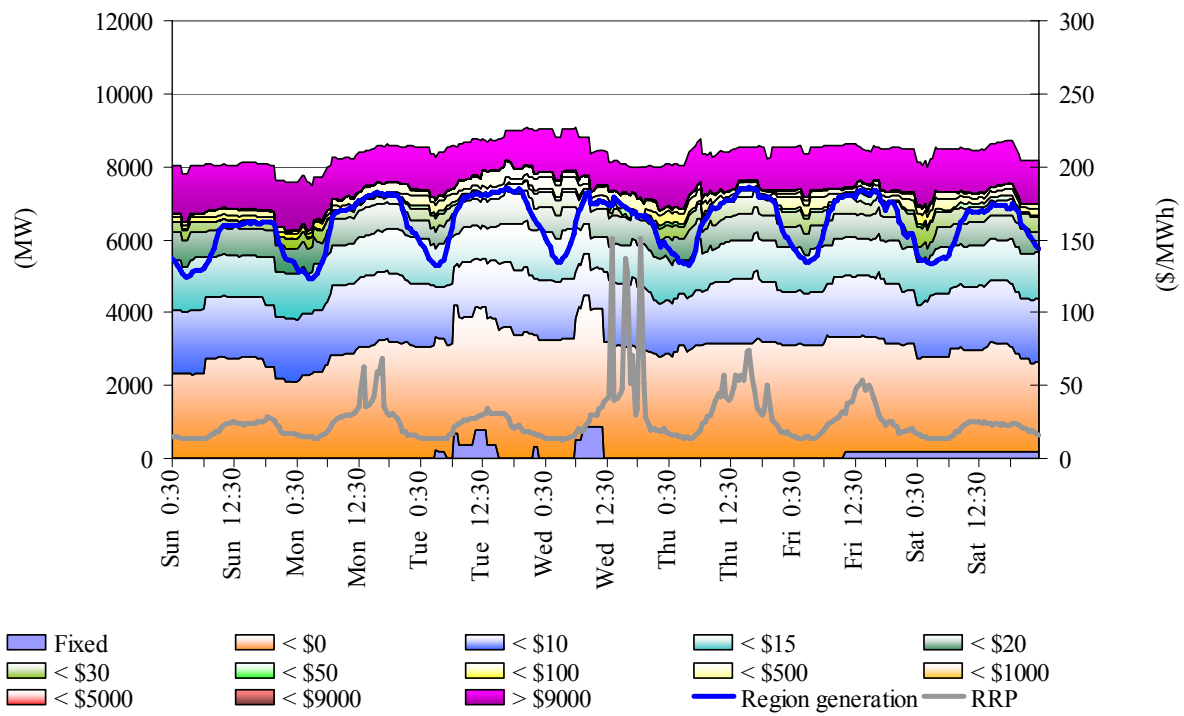
### **Friday, 10 March**

<b>10:00 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	84.12	27.00	27.00
Demand (MW)	1043	1027	1050
Available capacity (MW)	1636	1649	1649

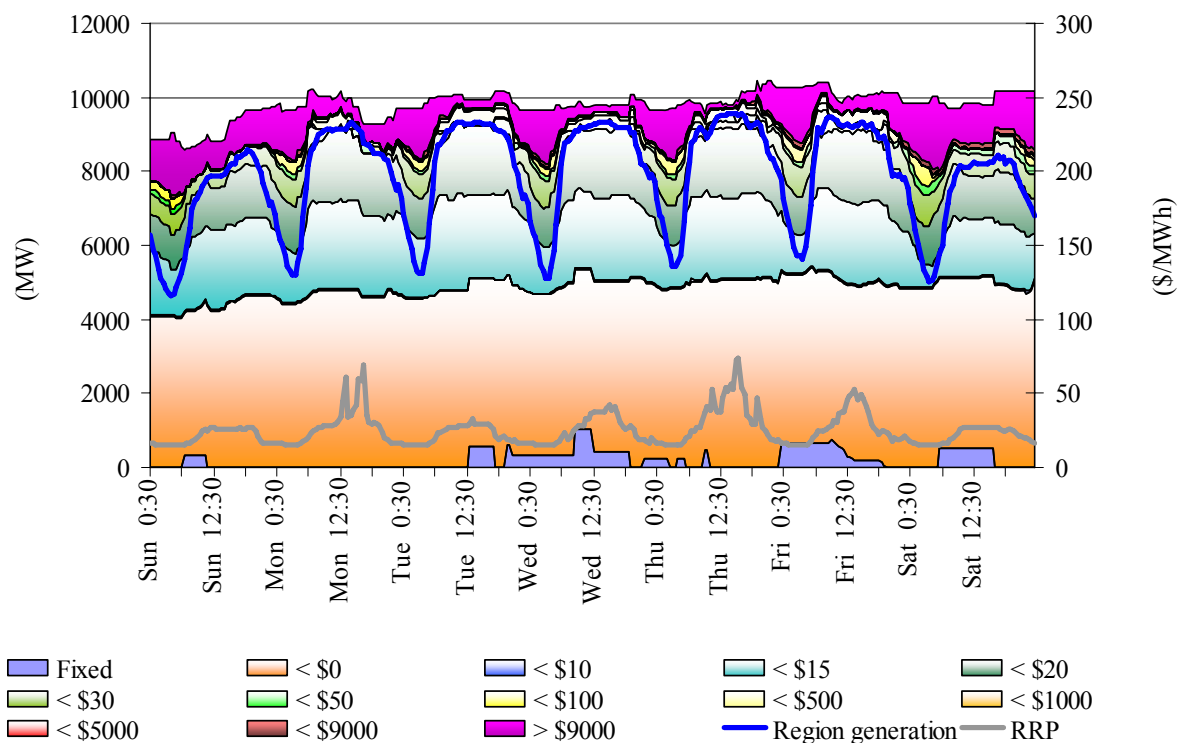
At 8.27 pm Basslink tripped reducing imports into Tasmania from 370MW to zero. At the same time demand fell by 250MW.

There was no significant rebidding.

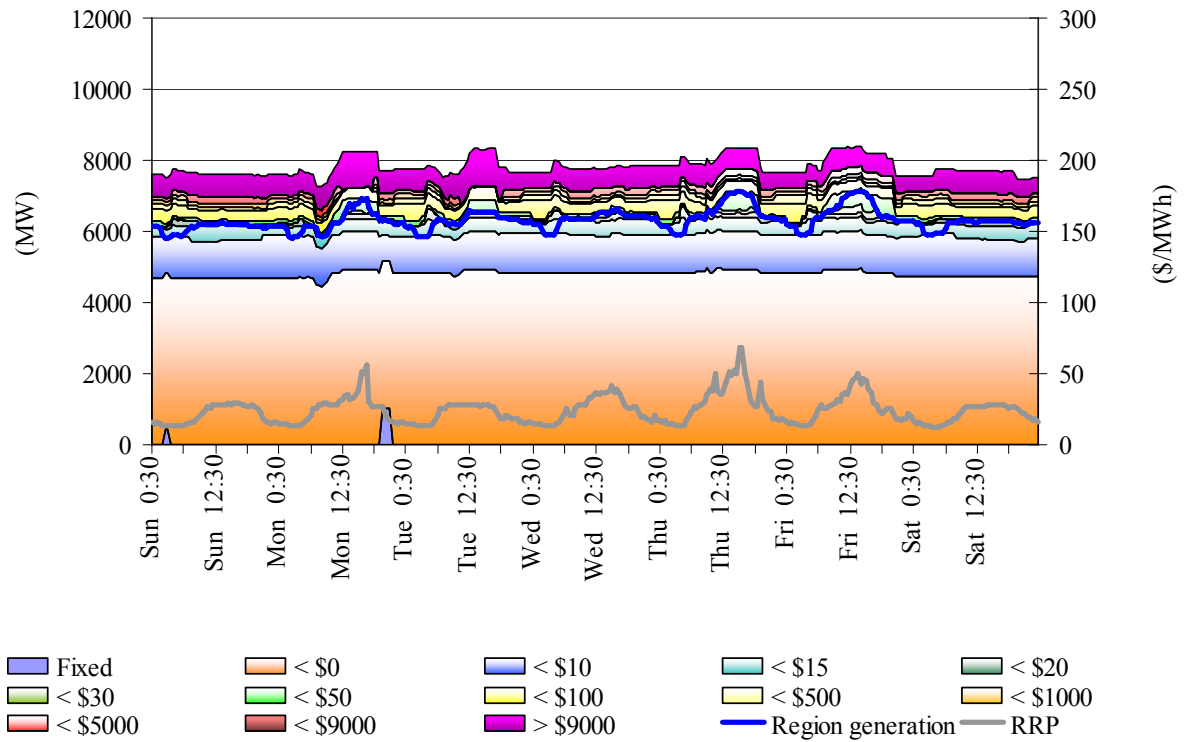
**Figure 52: Queensland closing bid prices, dispatched generation and spot price**



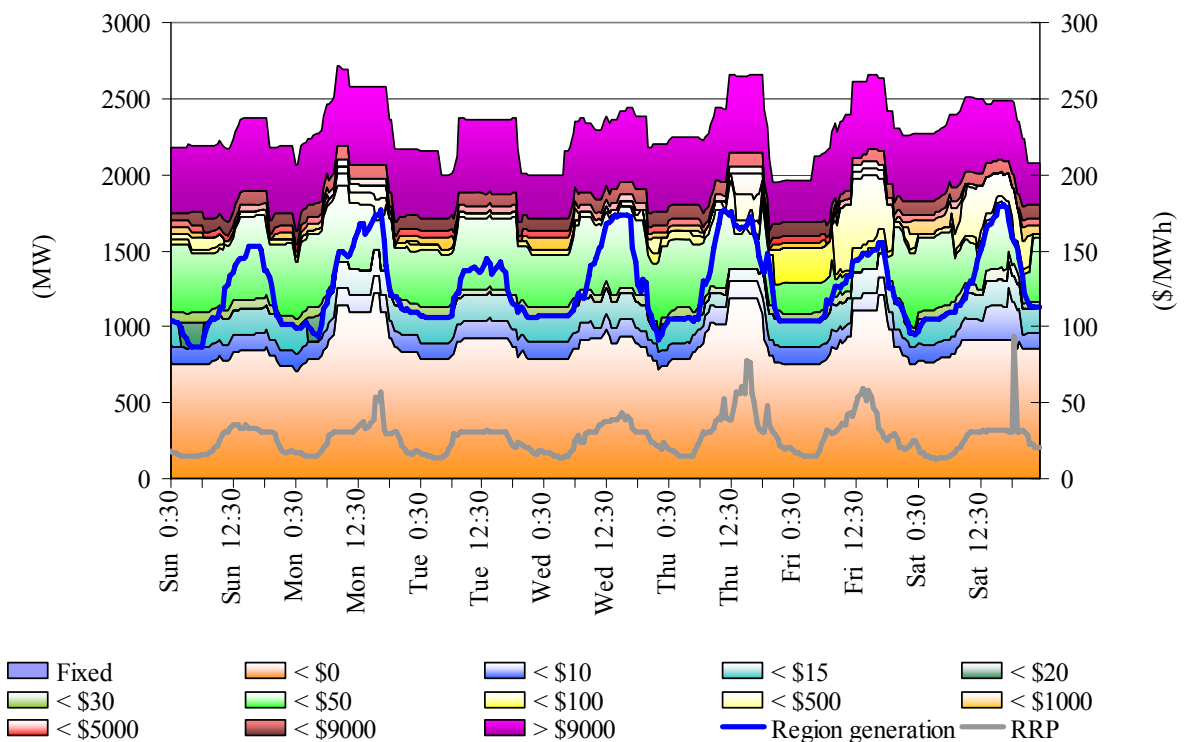
**Figure 53: New South Wales closing bid prices, dispatched generation and spot price**



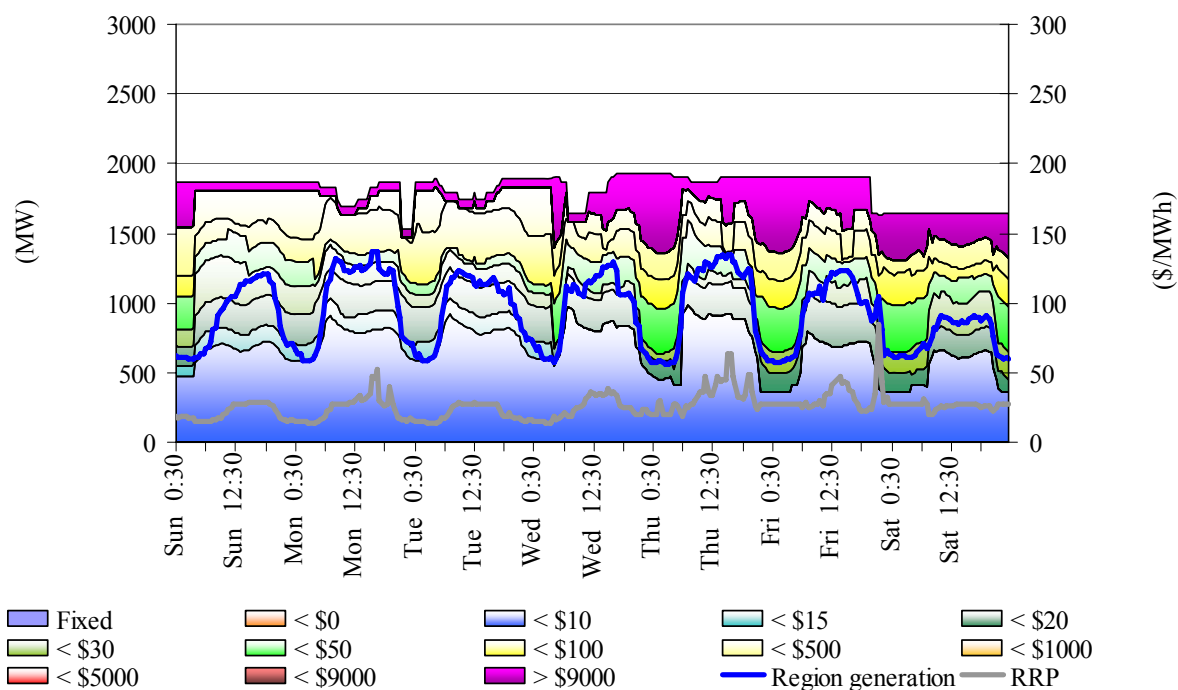
**Figure 54: Victoria closing bid prices, dispatched generation and spot price**



**Figure 55: South Australia closing bid prices, dispatched generation and spot price**



**Figure 56: Tasmania closing bid prices, dispatched generation and spot price**



**Ancillary service market**

The total cost of ancillary services on the mainland for the week was \$111 000 or 0.1 per cent of the total turnover in the energy market. Figure 57 summarises the volume weighted average prices and costs for the eight frequency control ancillary services across the interconnected regions.

**Figure 57: frequency control ancillary service prices and costs**

	Raise 6 sec	Raise 60 sec	Raise 5 min	Raise reg	Lower 6 sec	Lower 60 sec	Lower 5 min	Lower reg
Last week	0.48	0.36	0.73	0.50	0.10	0.05	0.39	1.01
Previous week	0.75	0.49	0.87	0.38	0.19	0.30	0.84	1.18
Last quarter	1.76	0.73	1.15	1.54	0.39	2.28	5.00	1.93
Market Cost (\$1000s)	19	14	43	10	0	0	6	18
% of energy market	0.02%	0.01%	0.04%	0.01%	0.00%	0.00%	0.01%	0.02%

The total cost of ancillary services in Tasmania for the week was \$167 000 or 4 per cent of the total turnover in the energy market in Tasmania. The majority of this cost occurred following the loss of Basslink on Friday when the price for the lower 6 second service reached almost \$10 000/MWh at 8.35pm. Figure 58 summarises for Tasmania the prices and costs for the eight frequency control ancillary services.



**Figure 58: frequency control ancillary service prices and costs for Tasmania**

	Raise 6 sec	Raise 60 sec	Raise 5 min	Raise reg	Lower 6 sec	Lower 60 sec	Lower 5 min	Lower reg
Last week	3.46	0.40	0.80	0.47	20.75	0.05	0.40	1.03
Previous week	2.05	0.30	0.48	0.80	0.29	0.18	0.31	0.44
Last quarter	7.89	1.05	1.05	1.58	4.43	1.06	1.06	1.97
Market Cost (\$1000s)	\$15	\$4	\$10	\$1	\$126	\$1	\$5	\$5
% of energy market	0.32%	0.09%	0.22%	0.03%	2.76%	0.02%	0.11%	0.11%

Figure 59 shows the daily breakdown of cost for each frequency control ancillary service.

**Figure 59: daily frequency control ancillary service costs**

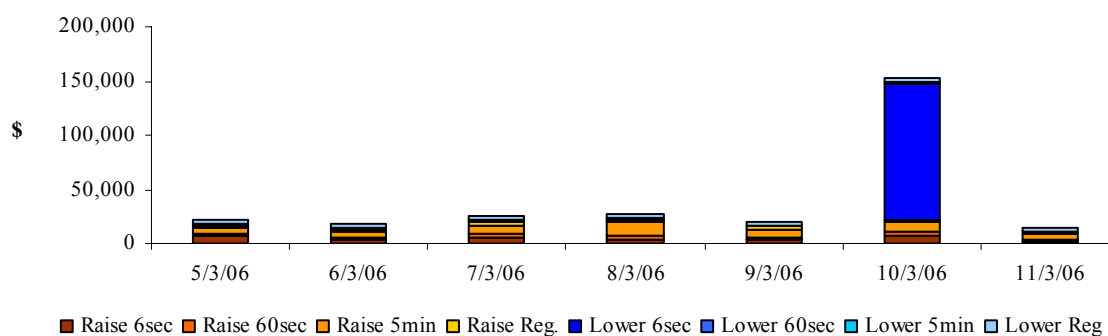
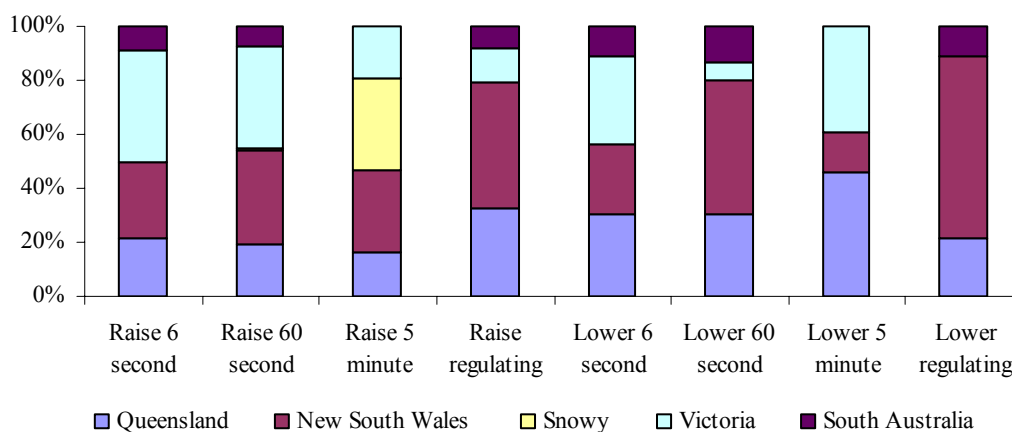


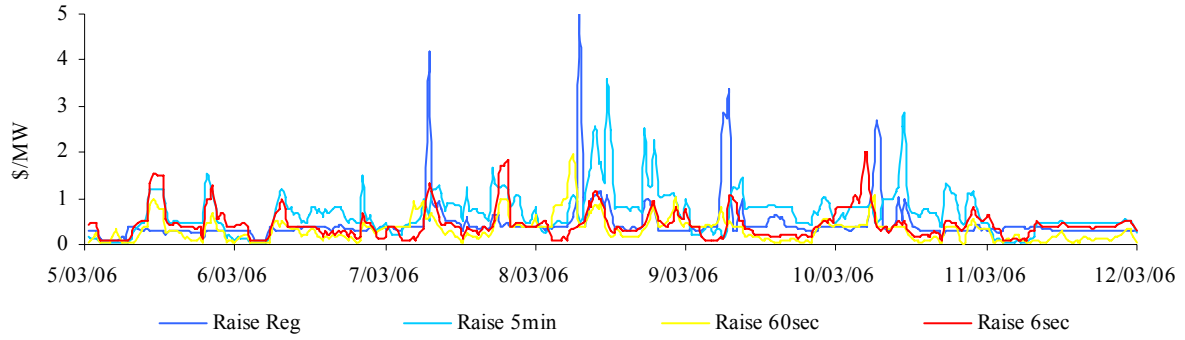
Figure 60 shows the contribution, on a percentage basis, that frequency control ancillary service providers are utilised (in each mainland region) to satisfy the total requirement for each service.

**Figure 60: regional participation in ancillary services on the mainland**

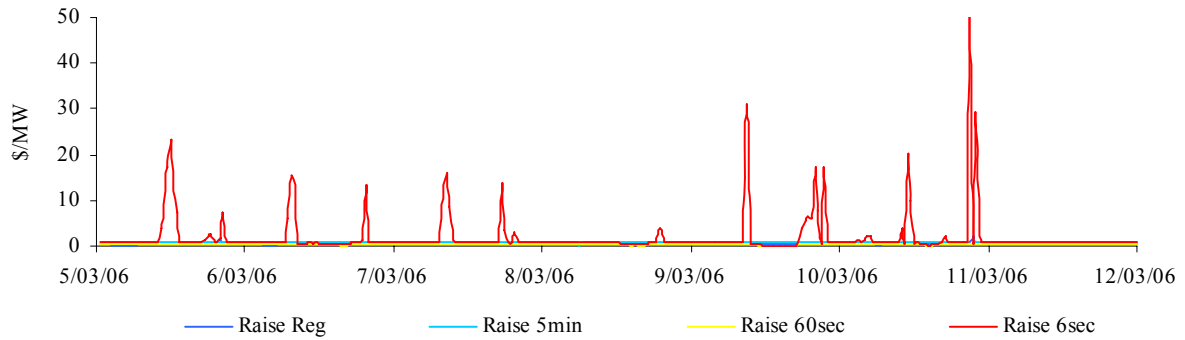


Figures 61 and 62 show 30-minute prices for each frequency control ancillary service throughout the week.

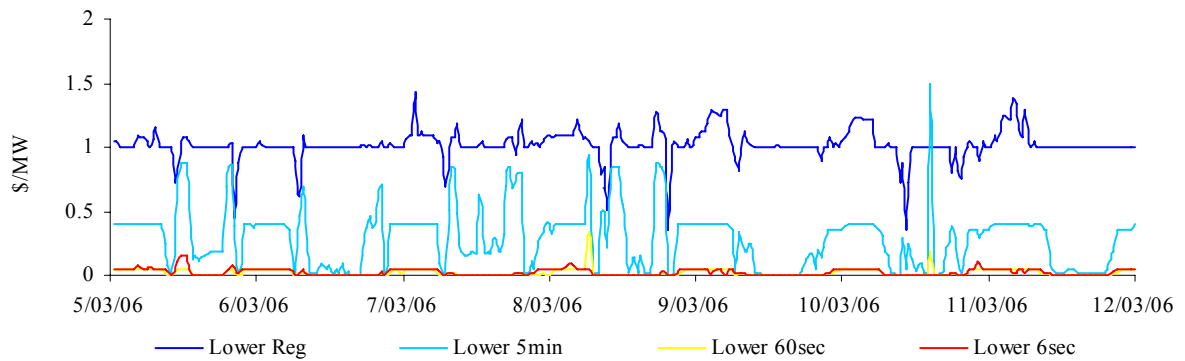
**Figure 61: prices for raise services**



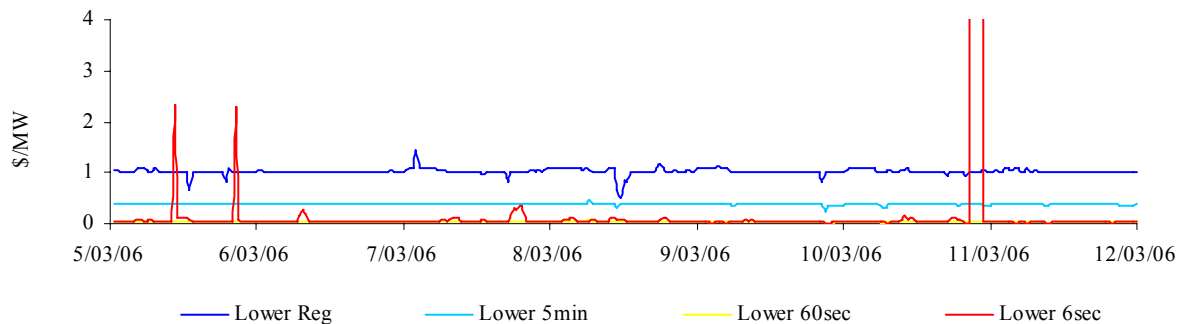
**Figure 61A: prices for raise services - Tasmania**



**Figure 62: prices for lower services**

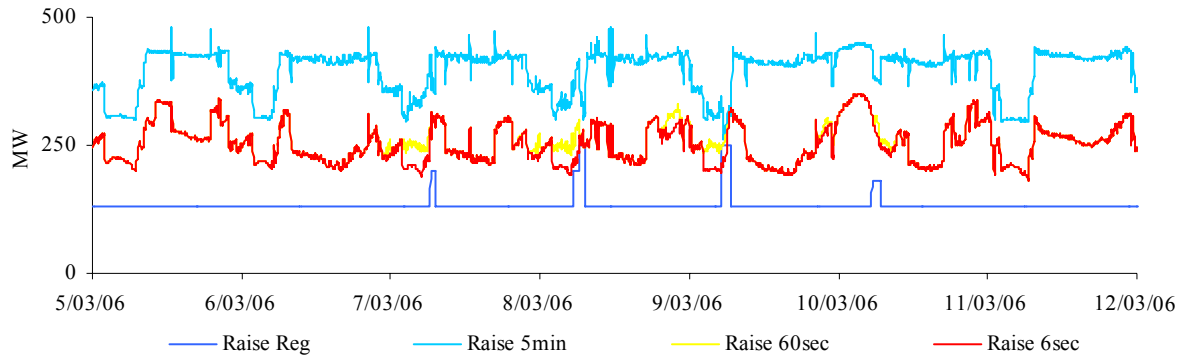


**Figure 62A: prices for lower services - Tasmania**

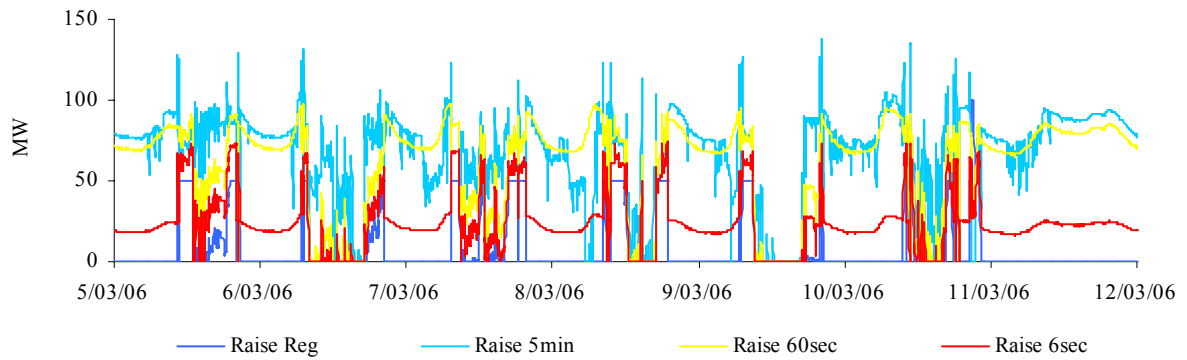


Figures 63 and 64 present for both raise and lower frequency control services the requirement, established by NEMMCO, for each service to satisfy the frequency standard.

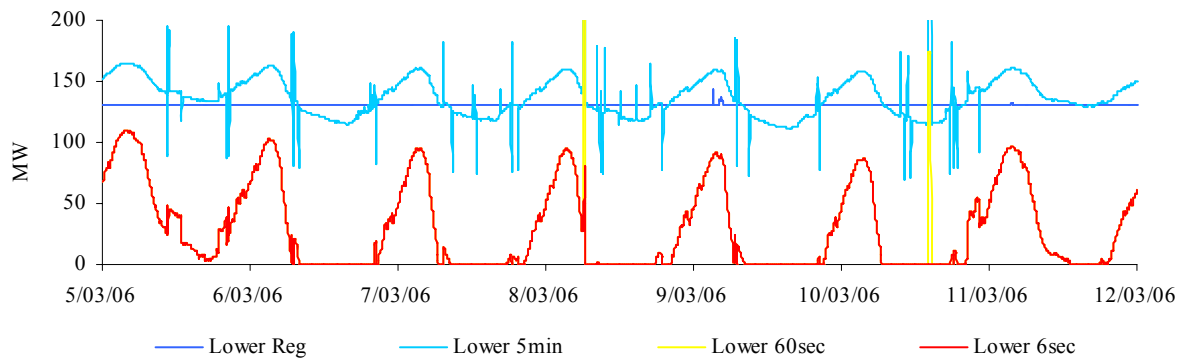
**Figure 63: raise requirements**



**Figure 63A: raise requirements - Tasmania**



**Figure 64: lower requirements**



**Figure 64A: lower requirements - Tasmania**

