

30 APRIL – 6 MAY 2006

Spot prices were aligned across the mainland for around 80 per cent of the time, averaging between \$18/MWh in Queensland and \$26/MWh in South Australia. The average weekly price in Tasmania was \$22/MWh, the lowest since joining the market.

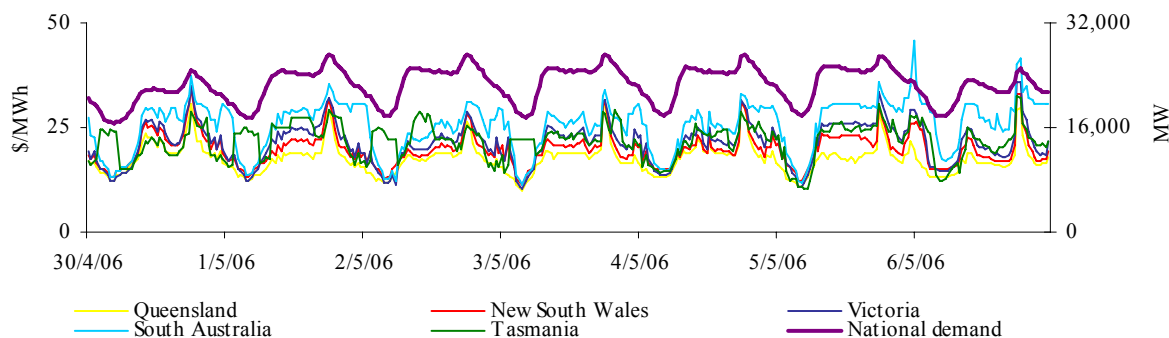
Turnover in the energy market was \$78 million. The total cost of ancillary services for the week, including Tasmania, was \$234 000, or 0.3 per cent of energy market turnover.

Significant variations between actual prices and those forecast 4 and 12 hours ahead occurred in only 4, or around 1 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 fifth of all trading intervals across the market. These variations were most frequent in Tasmania, occurring in a half of all trading intervals. Conversely, in New South Wales, demand forecast errors of more than 5 per cent occurred in less than 1 per cent 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	18	20	22	26	22
Previous week	20	22	23	26	27
Same quarter last year	23	28	27	36	-
Financial year to date	32	45	36	44	63
% change from previous week*	▼8%	▼8%	▼4%	▼1%	▼19%
% change from same quarter last year**	▼22%	▼29%	▼20%	▼26%	-
% change from year to date***	▲1%	▼7%	▲24%	▲10%	-

\*The percentage change between last week's average spot price and the average price for the previous week.

\*\*The percentage change between last week's average spot price and the average price for the same quarter last year.

\*\*\*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.

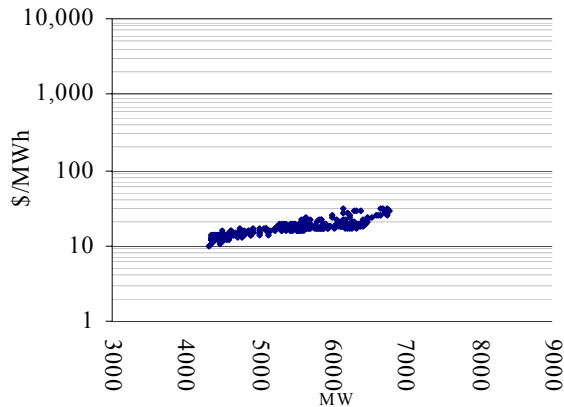
**Figure 3: volatility index during peak periods**

	QLD	NSW	VIC	SA	TAS
Last week	0.25	0.23	0.27	0.26	0.30
Previous week	0.34	0.36	0.41	0.35	0.21
Same quarter last year	0.73	0.74	0.78	0.70	-

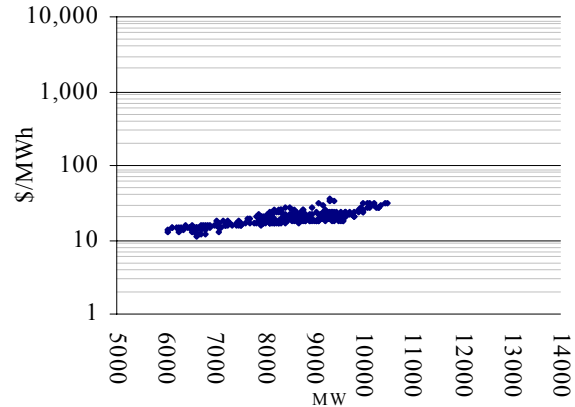
A definition of the price volatility index is available on the AER website.  
<http://www.aer.gov.au/content/index.phtml/tag/MarketSnapshotLongTermAnalysis>

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

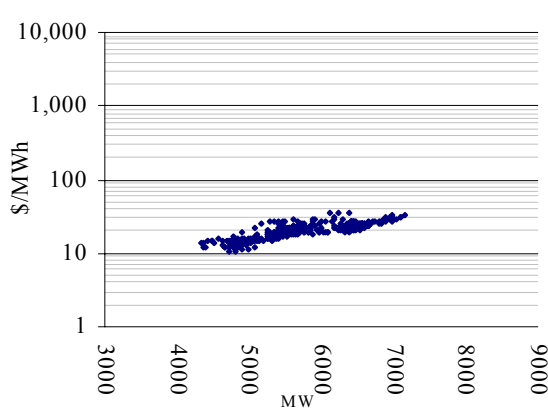
**Figure 4: Queensland**



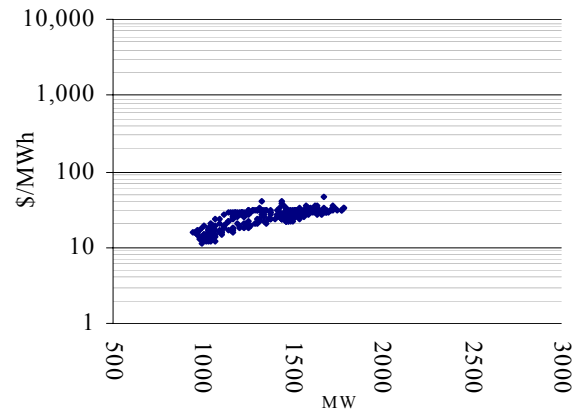
**Figure 5: New South Wales**



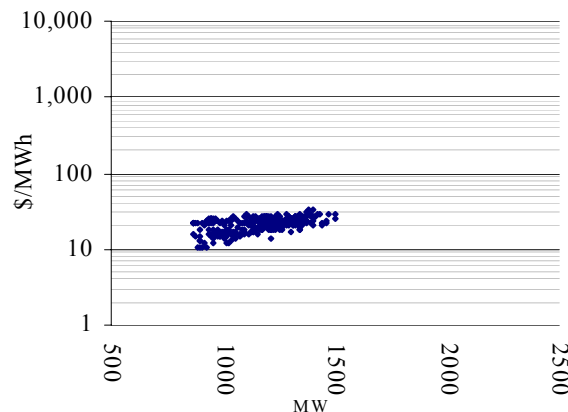
**Figure 6: Victoria**



**Figure 7: South Australia**



**Figure 8: Tasmania**



Maximum spot prices for the week ranged from \$31/MWh in Queensland to \$46/MWh in South Australia.

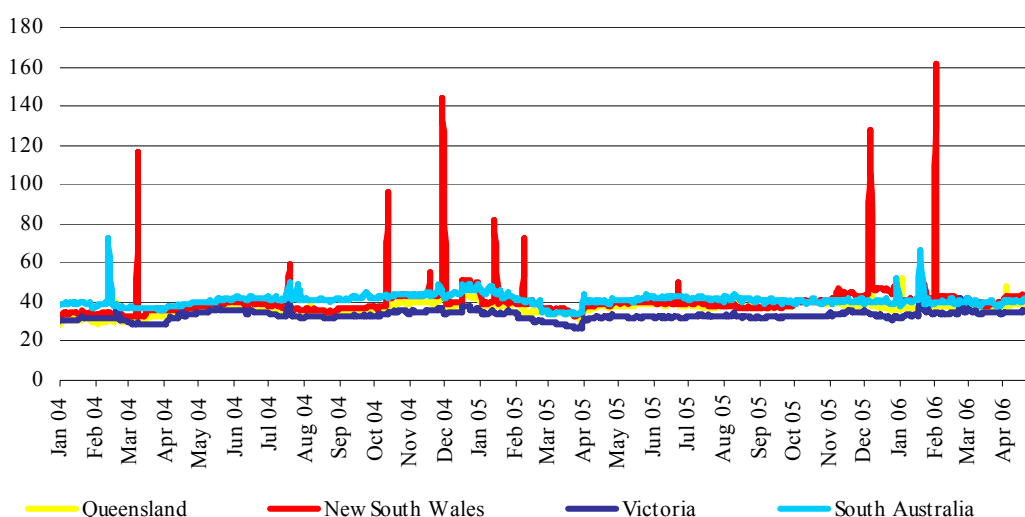
Figure 9 sets out the d-cyphaTrade wholesale electricity price index (WEPI) \* for each region throughout the week excluding Tasmania. Figure 10 sets out the WEPI since 1 January 2004.

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

	Monday	Tuesday	Wednesday	Thursday	Friday
Queensland	37.18	38.74	38.27	34.86	38.16
New South Wales	42.34	42.49	42.29	42.26	42.28
Victoria	35.20	34.82	34.89	38.32	34.88
South Australia	40.88	40.42	40.53	40.82	41.19

\* A definition of the wholesale electricity price index is available on the d-cyphaTrade website  
[http://www.d-cyphatrade.com.au/products/wholesale\\_electricity\\_price\\_i](http://www.d-cyphatrade.com.au/products/wholesale_electricity_price_i)

**Figure 10: d-cyphaTrade WEPI**

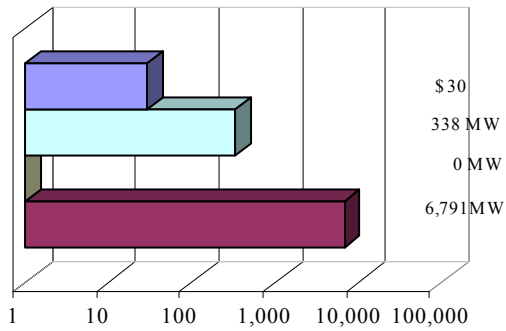


## Reserve

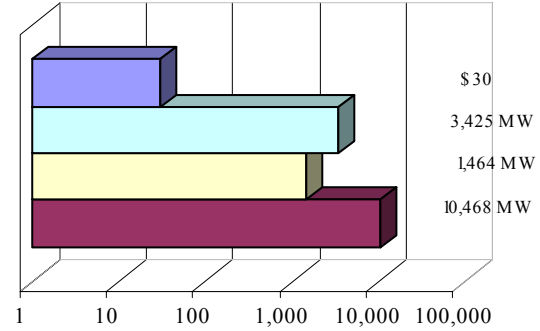
There were no low reserve conditions forecast. A direction, to provide regulation frequency control services, was issued on Thursday in Tasmania following the loss of SCADA to a number of generating units.

Figures 11 to 15: spot price, net import and limit at time of weekly maximum demand

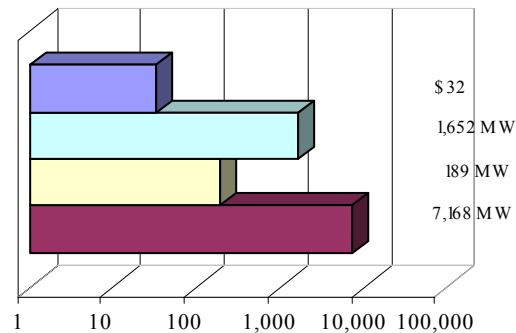
**Figure 11: Queensland**



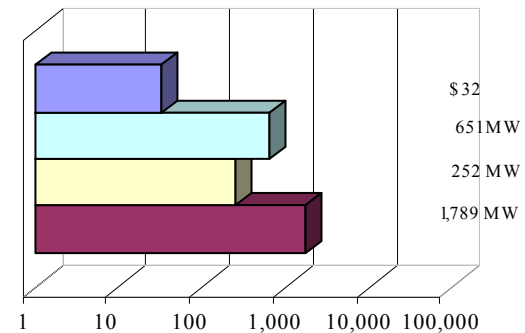
**Figure 12: New South Wales**



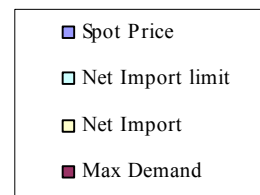
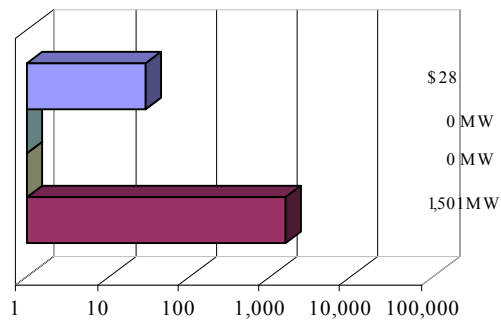
**Figure 13: Victoria**



**Figure 14: South Australia**



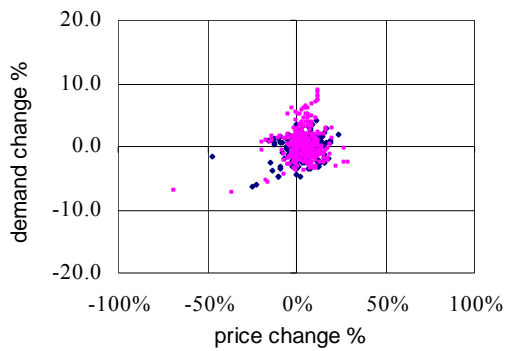
**Figure 15: Tasmania**



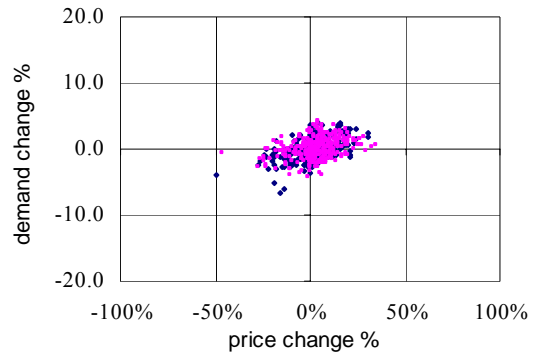
## Price variations

There were 4 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 relationship 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.

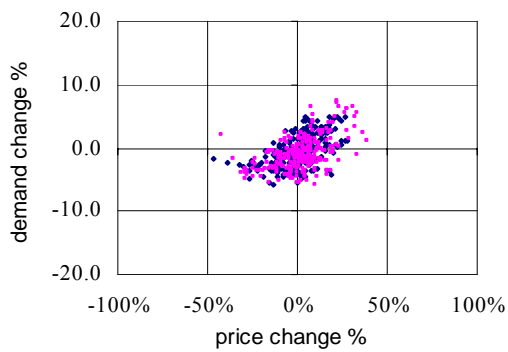
**Figure 16: Queensland**



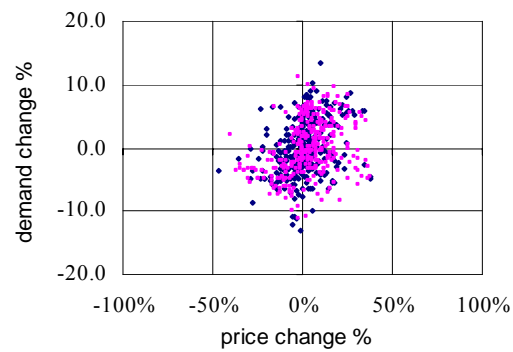
**Figure 17: New South Wales**



**Figure 18: Victoria**



**Figure 19: South Australia**



**Figure 20: Tasmania**

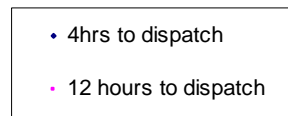
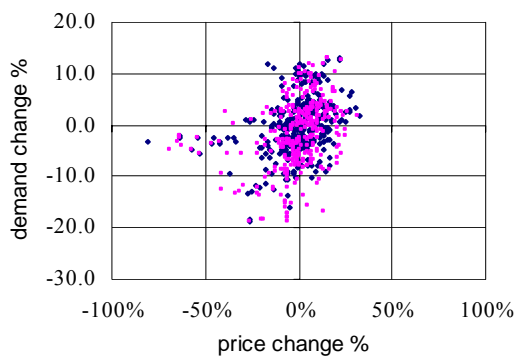
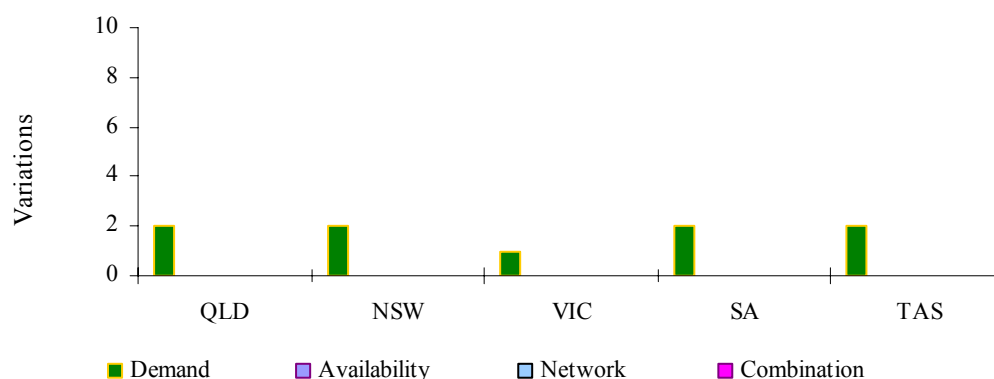


Figure 21 summarises the number and most probable reason for variations between forecast and actual prices.

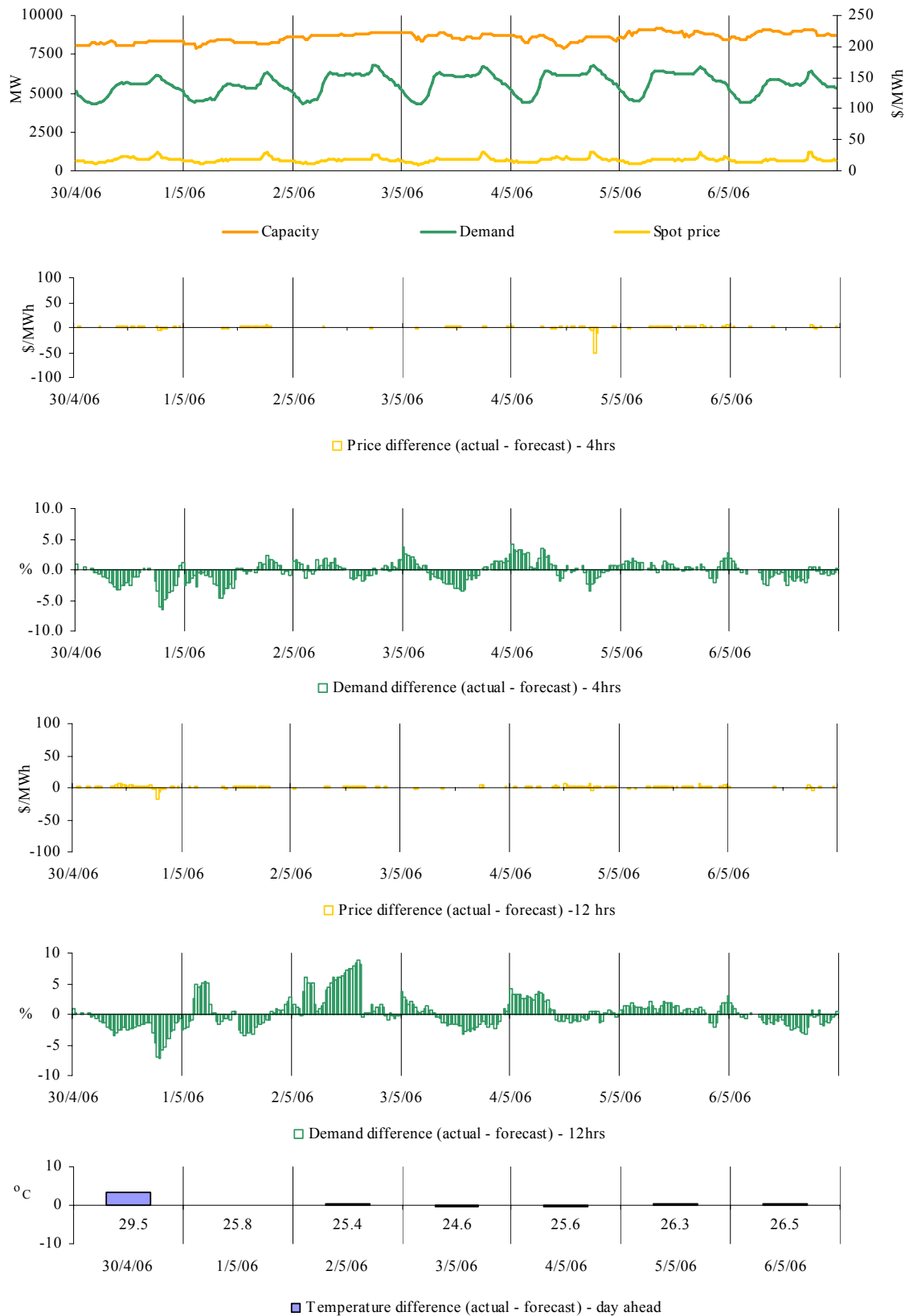
**Figure 21: reasons for variations between forecast and actual prices**



### Price and demand

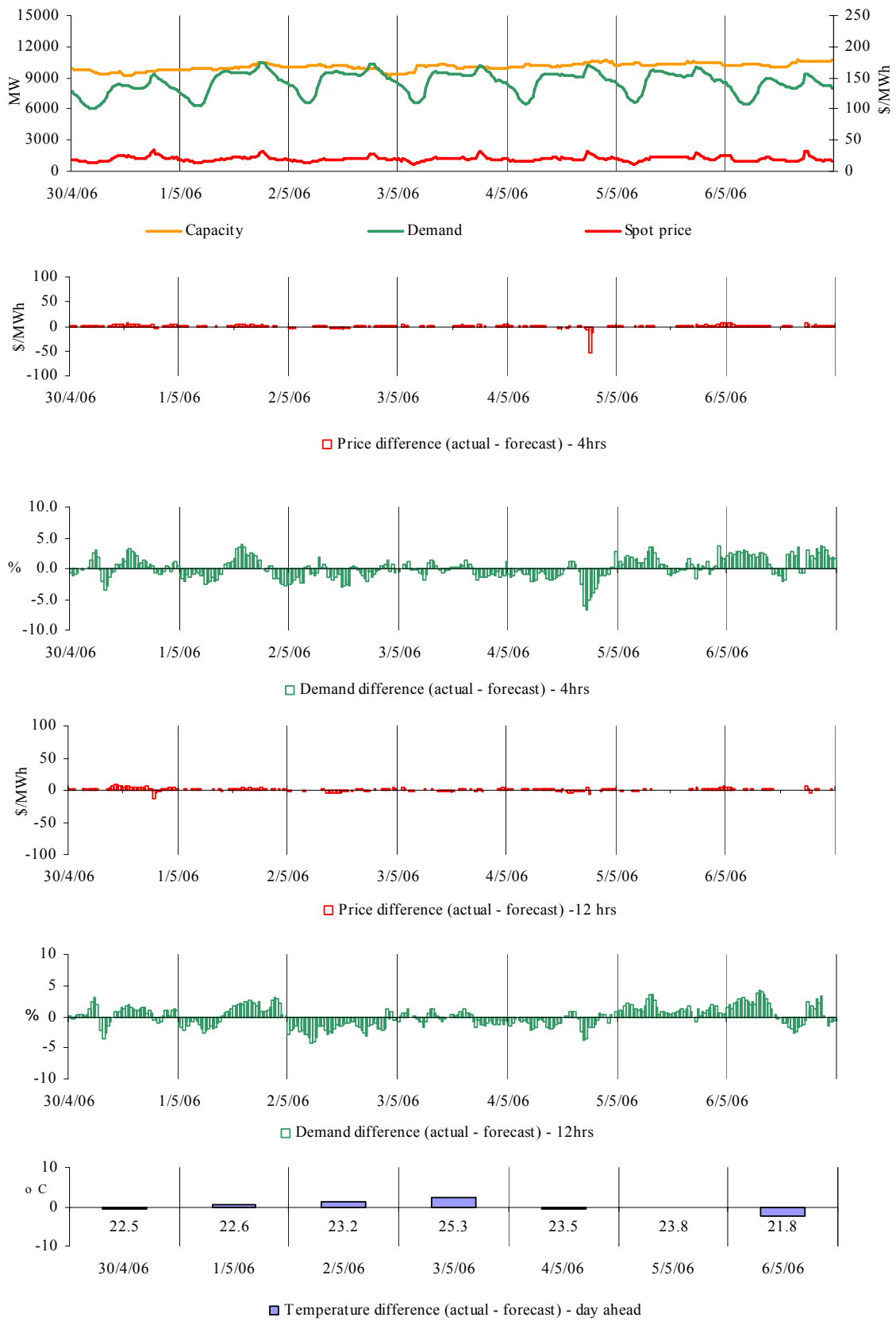
Figures 22 - 51 set out details of spot prices and demand on a regional basis. They include the actual spot price, actual demand outcomes and variation from forecasts made 4 and 12 hours ahead of dispatch on a daily basis. The differences between the maximum temperature and the temperature forecast at 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 was no occasion where the spot price in Queensland was greater than three times the weekly average price of \$18/MWh.

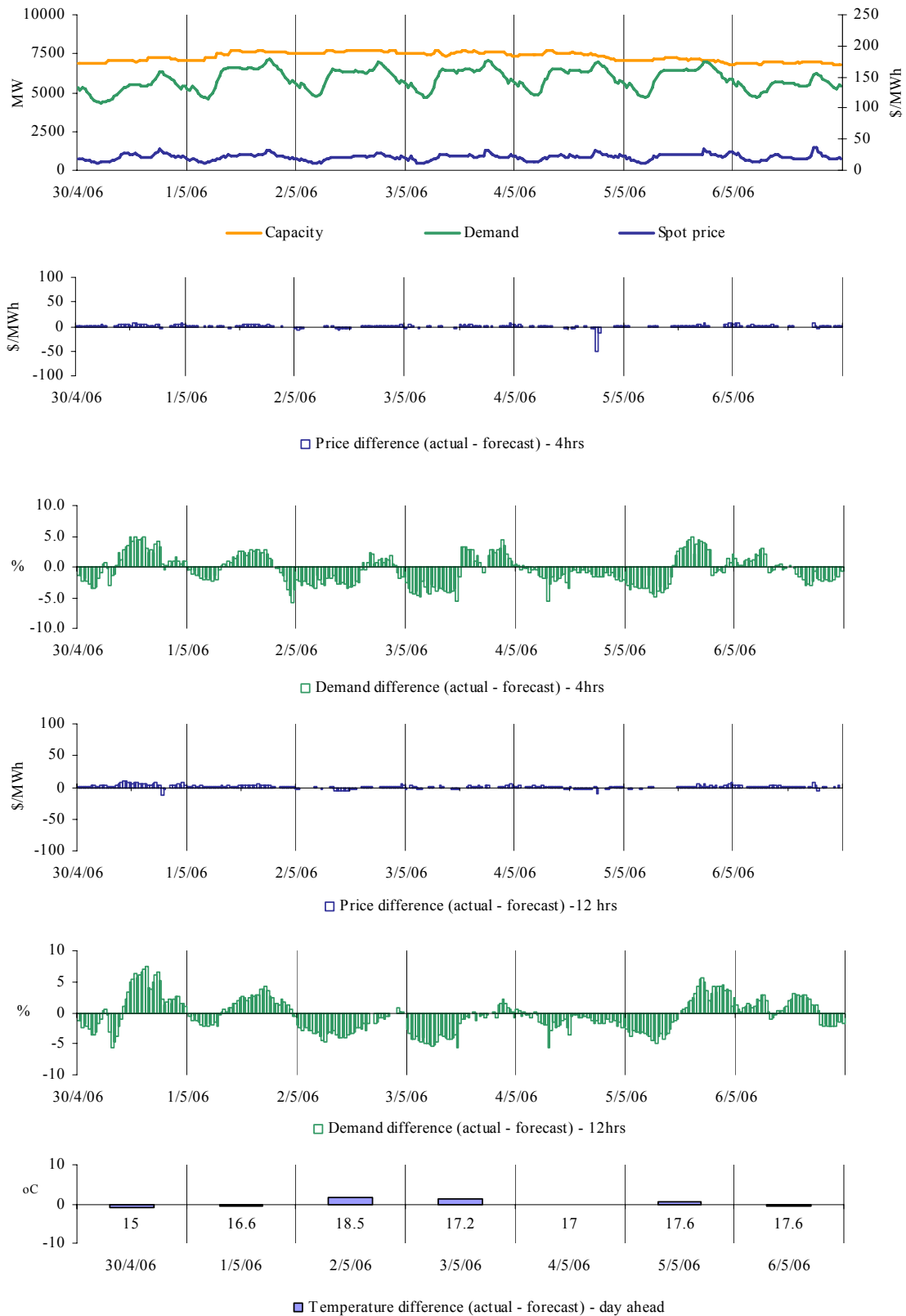
**Figures 28-33 New South Wales actual spot price, demand and forecast differences**



There was no occasion where the spot price in New South Wales was greater than three times the weekly average price of \$20/MWh.

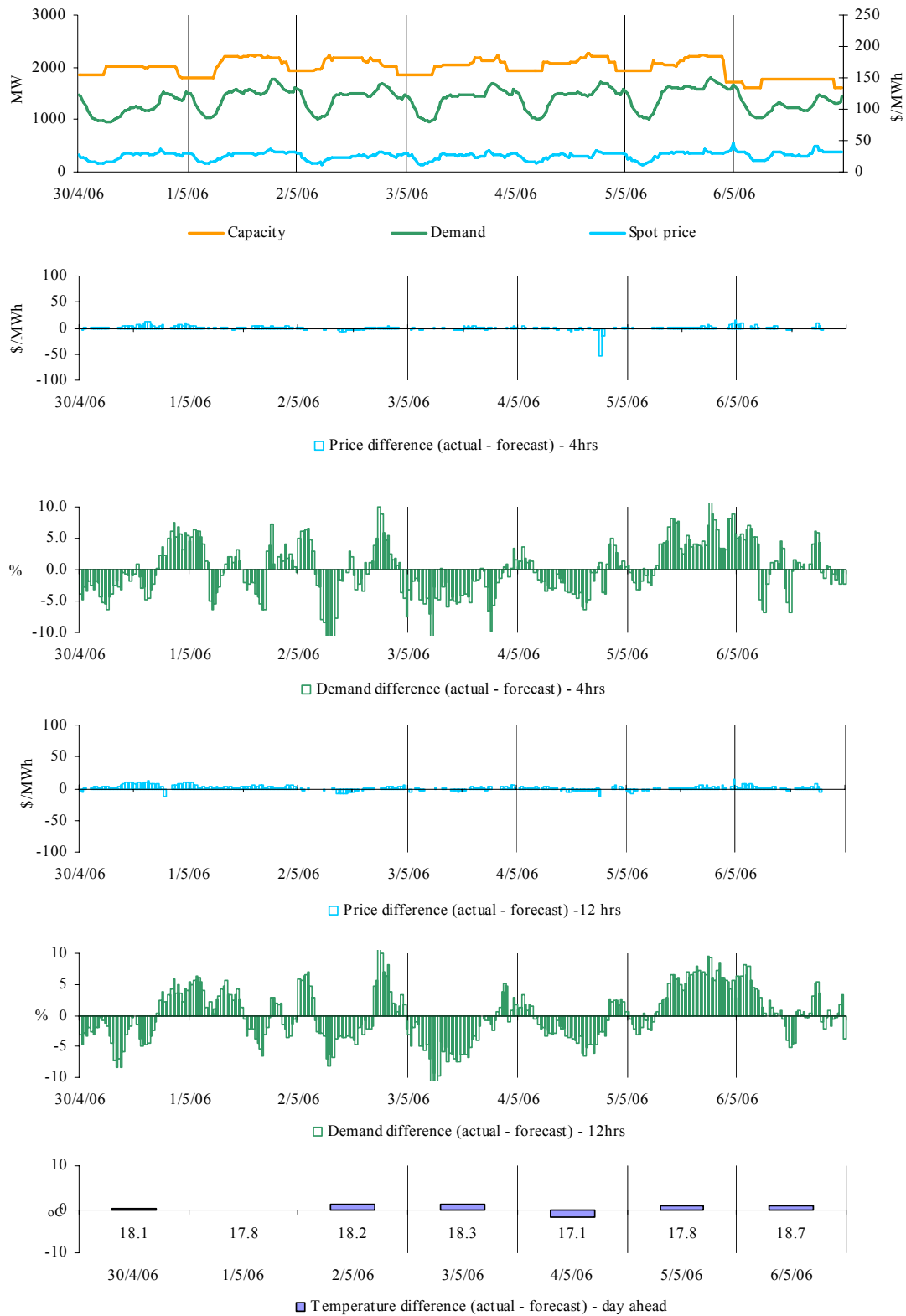


**Figures 34-39: Victoria actual spot price, demand and forecast differences**



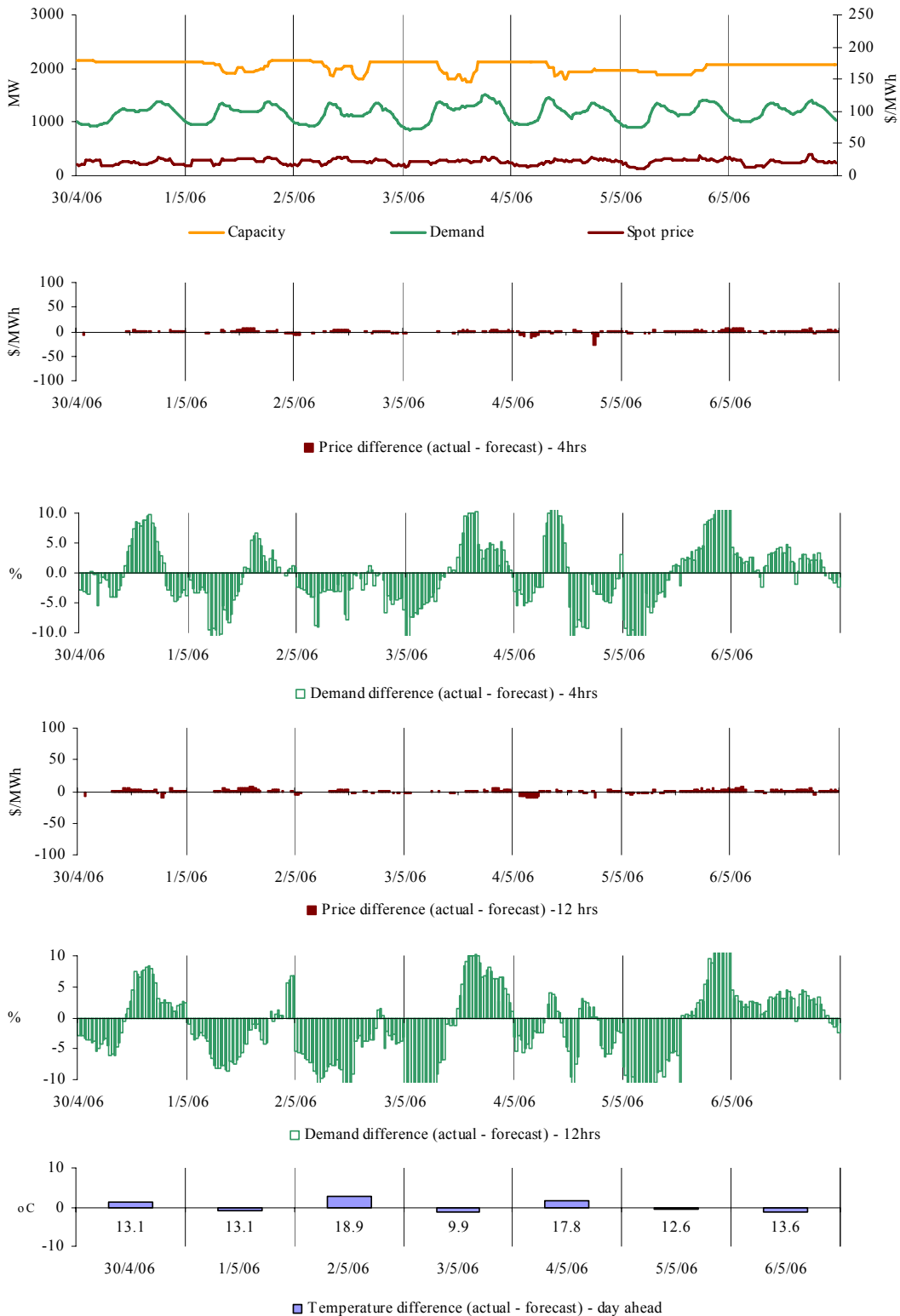
There was no occasion where the spot price in Victoria was greater than three times the weekly average price of \$22/MWh.

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



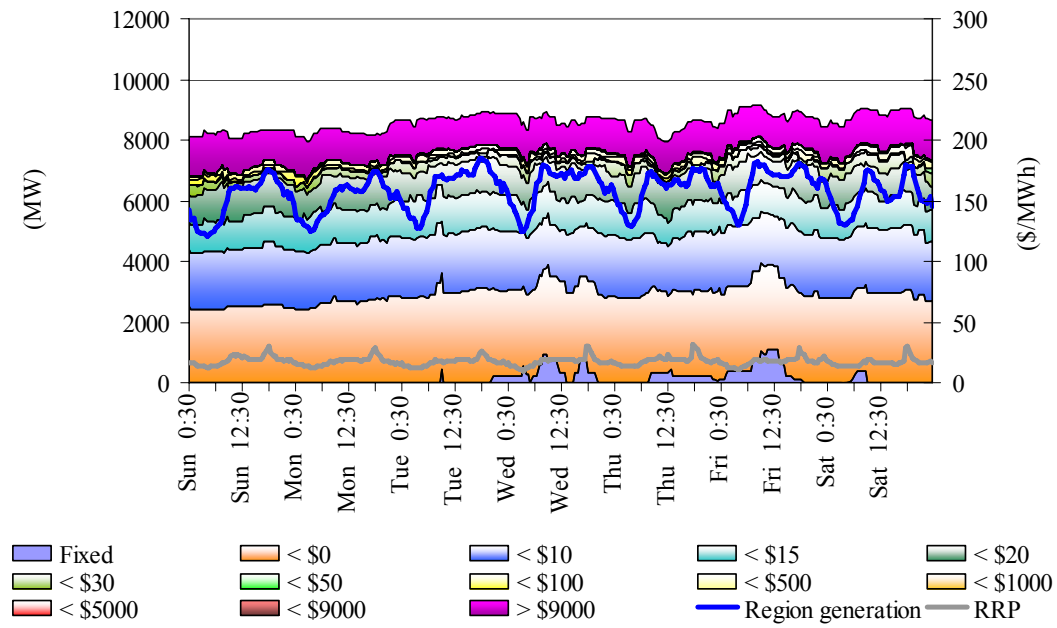
There was no occasion where the spot price in South Australia was greater than three times the weekly average price of \$26/MWh.

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

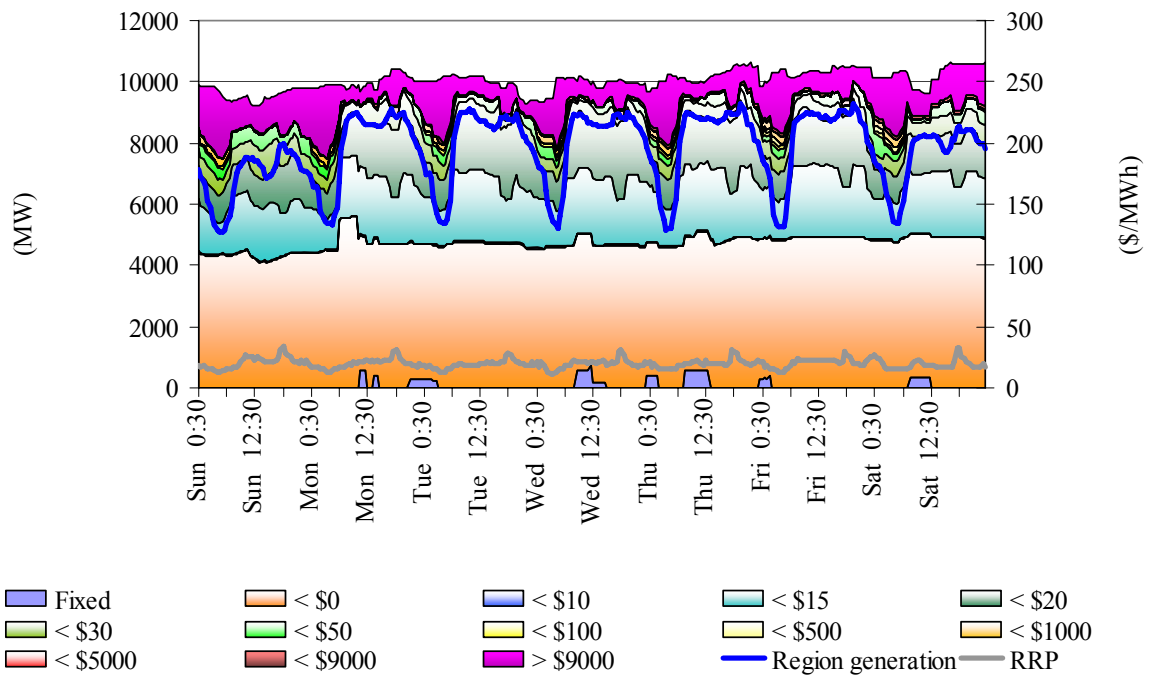


There was no occasion where the spot price in Tasmania was greater than three times the weekly average price of \$22/MWh.

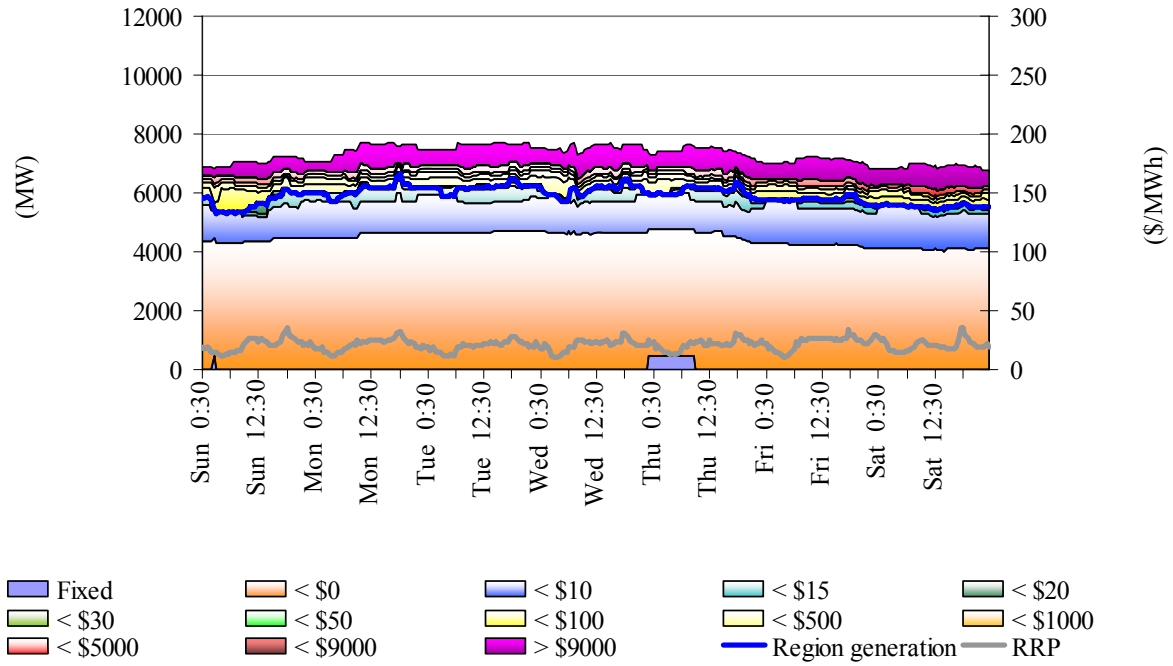
**Figure 52: Queensland closing bid prices, dispatched generation and spot price**



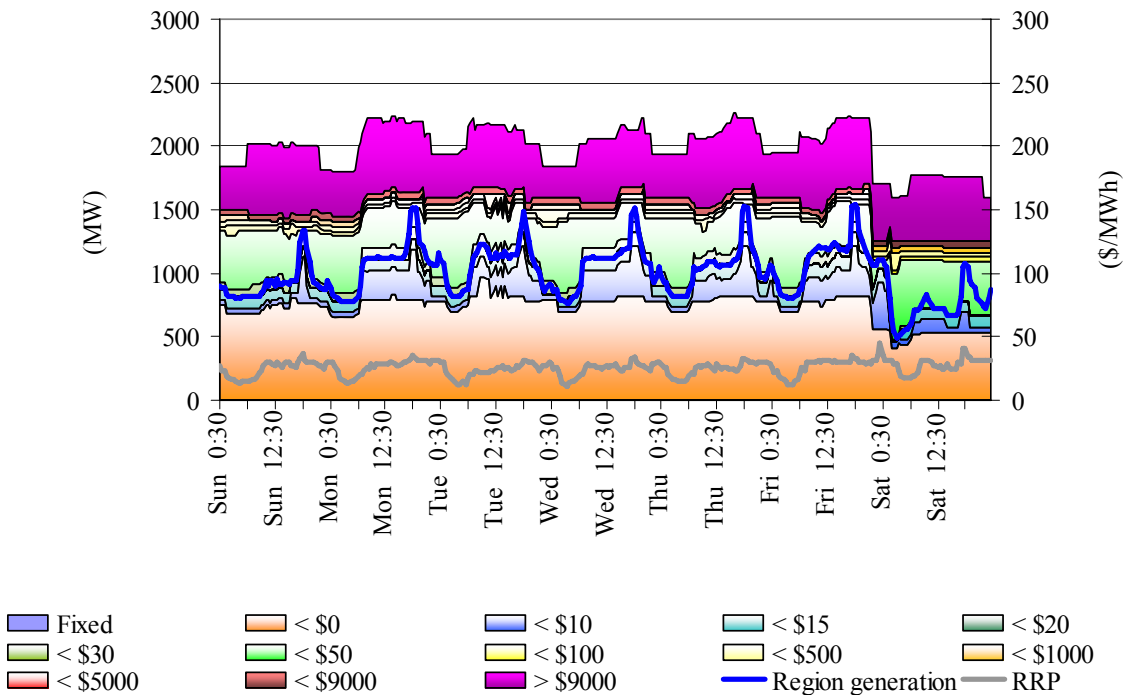
**Figure 53: New South Wales closing bid prices, dispatched generation and spot price**



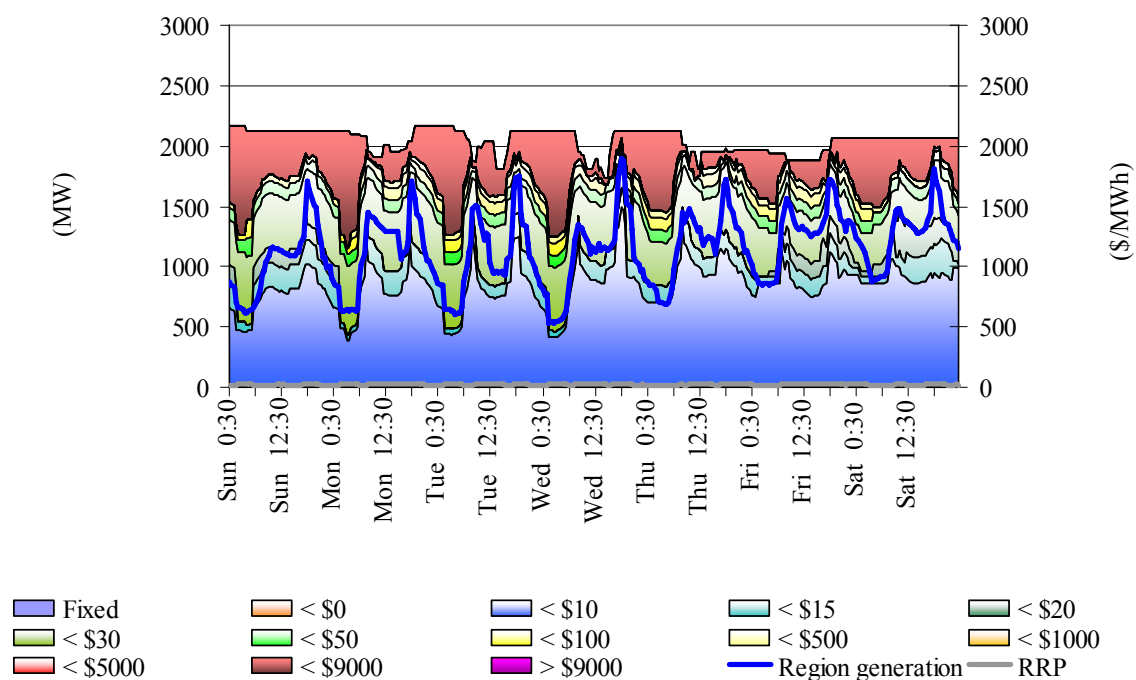
**Figure 54: Victoria closing bid prices, dispatched generation and spot price**



**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 \$174 000 or 0.2 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	1.39	0.33	0.99	0.93	0.14	0.24	1.06	0.83
Previous week	2.47	1.02	1.26	1.96	0.24	0.36	1.24	2.04
Last quarter	1.76	0.73	1.15	1.54	0.39	2.28	5.00	1.93
Market Cost (\$1000s)	58	13	59	18	0	1	15	11
% of energy market	0.08%	0.02%	0.08%	0.02%	0.00%	0.00%	0.02%	0.01%

The total cost of ancillary services in Tasmania for the week was \$60 000 or 1.4 per cent of the total turnover in the energy market in Tasmania. A direction, to provide regulation frequency control services, was issued on Thursday in Tasmania following the loss of SCADA to a number of generating units. 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	1.89	1.20	2.32	0.55	1.09	0.02	0.06	0.43
Previous week	0.29	0.27	0.78	0.15	0.62	0.10	0.09	0.27
Last quarter	7.89	1.05	1.05	1.58	4.43	1.06	1.06	1.97
Market Cost (\$1000s)	8	11	25	2	8	0	1	4
% of energy market	0.19%	0.26%	0.58%	0.05%	0.18%	0.01%	0.03%	0.10%

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

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

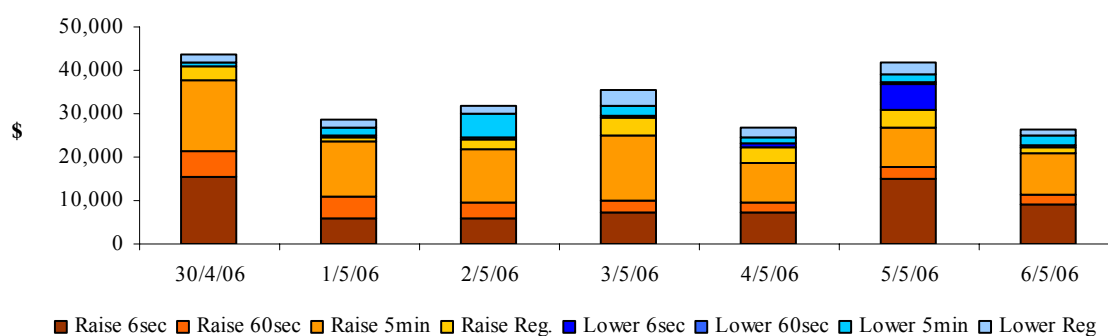
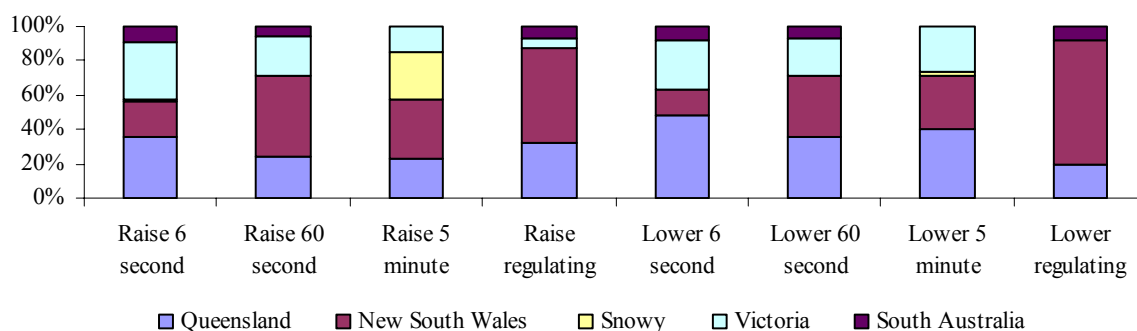


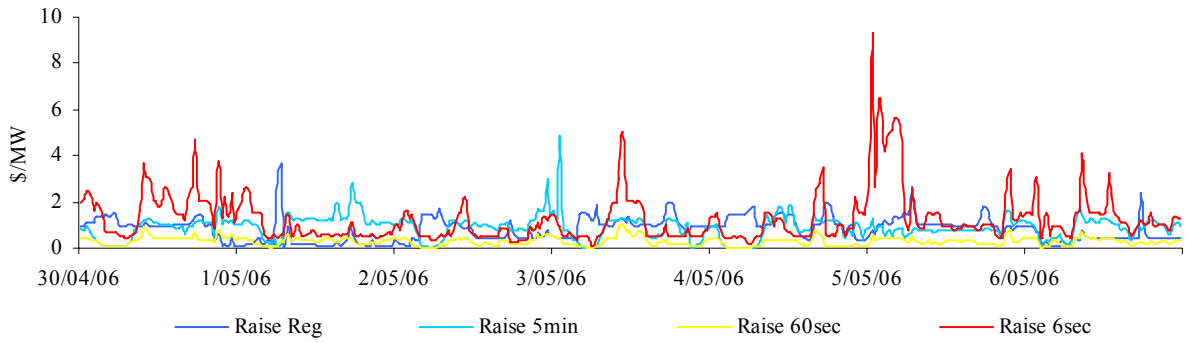
Figure 60 shows the contribution, on a percentage basis, that frequency control ancillary service providers are utilised (in each mainland region) to satisfy the total requirement for each service.

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

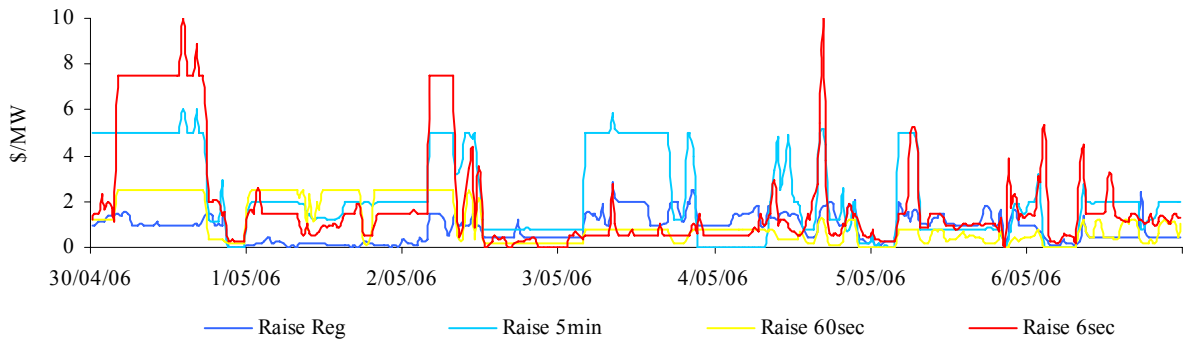


Figures 61 and 62 show 30-minute prices for each frequency control ancillary service throughout the week.

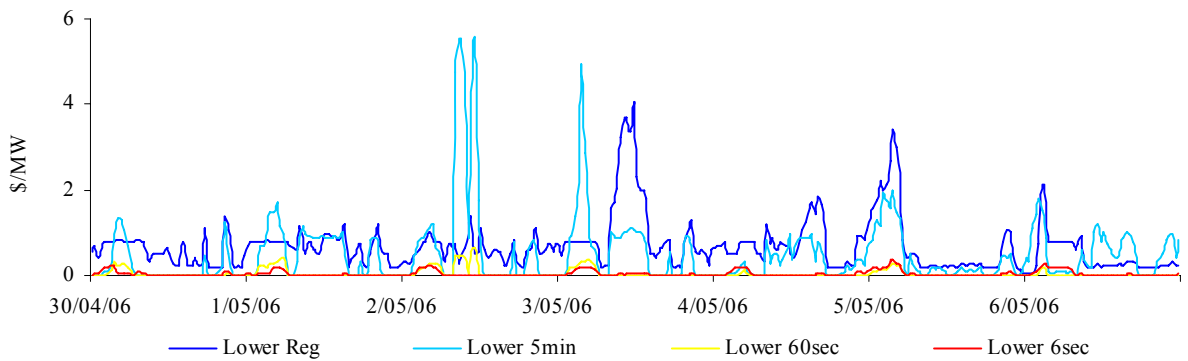
**Figure 61: prices for raise services**



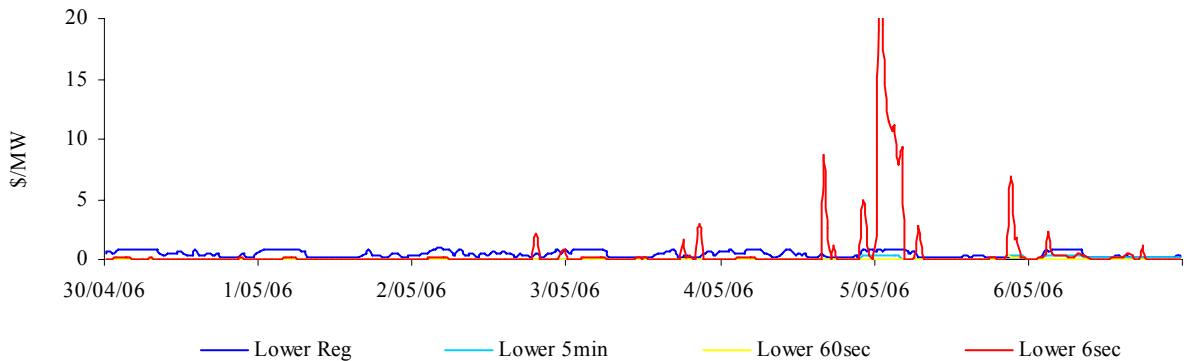
**Figure 61A: prices for raise services - Tasmania**



**Figure 62: prices for lower services**



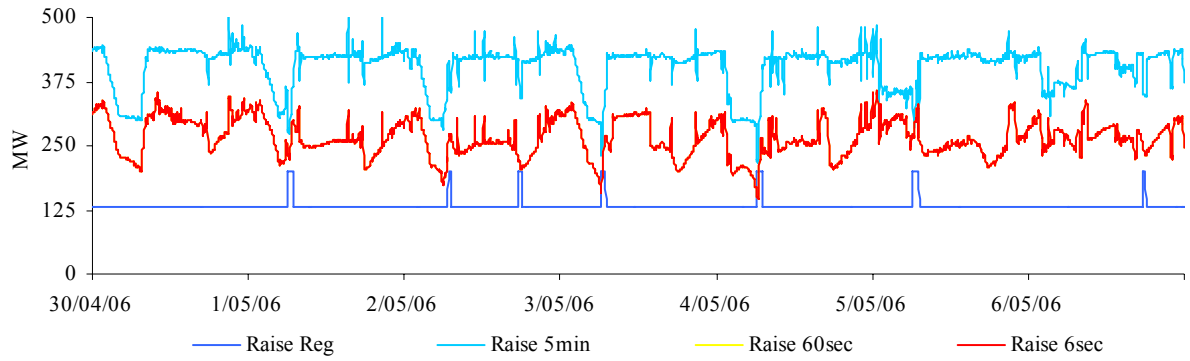
**Figure 62A: prices for lower services - Tasmania**



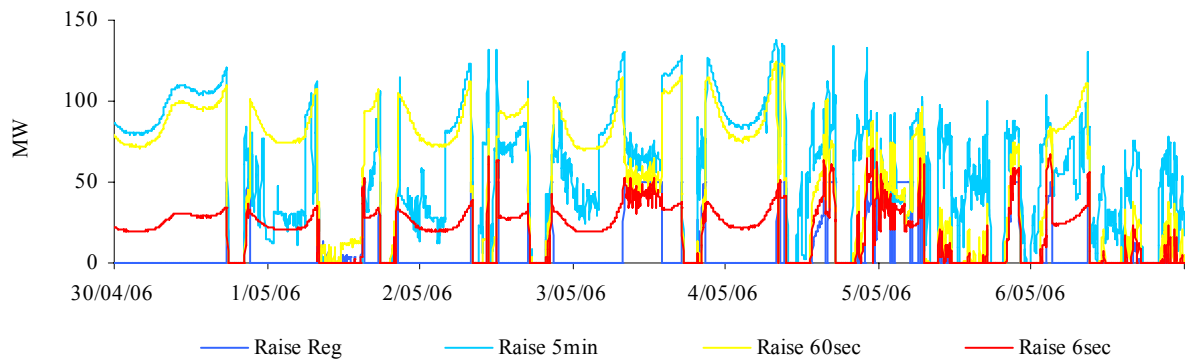
Figures 63 and 64 present for both raise and lower frequency control services the requirement, established by NEMMCO, for each service to satisfy the frequency standard.



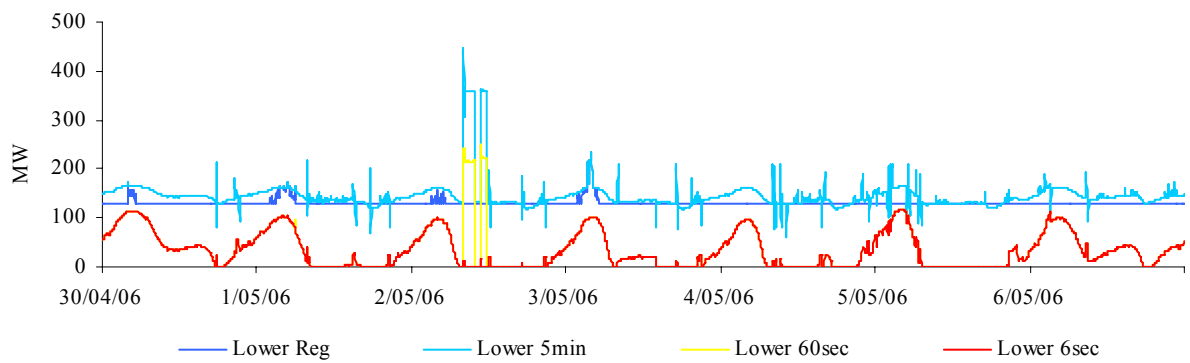
**Figure 63: raise requirements**



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



**Figure 64: lower requirements**



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

