

3 JULY - 9 JULY 2005

Spot prices for the week averaged \$32/MWh in South Australia, \$26/MWh in Victoria, \$25/MWh in New South Wales and \$18/MWh in Queensland. These prices represent a reduction from the previous week, consistent with a further reduction in demand.

In Tasmania the spot price averaged \$103/MWh, similar to the previous week.

The price volatility index was around half the longer term trend in Queensland, but consistent for the other mainland regions. In Tasmania, the volatility index reduced slightly from the previous week.

Turnover in the energy market was around \$112 million, while the total cost of ancillary services for the week was \$445,000 or 0.4 per cent of the total turnover in the energy market. The cost for ancillary services in Tasmanian totalled \$135,000 or 0.6 per cent of the energy market turnover for that region.

Demand forecasts produced 4 and 12 hours ahead varied from actual by more than 5 per cent in around 20 per cent of all trading intervals across the market with 40 per cent of trading intervals in South Australia affected. Significant variations between forecast and actual prices occurred in 35 or 10 per cent of all trading intervals.

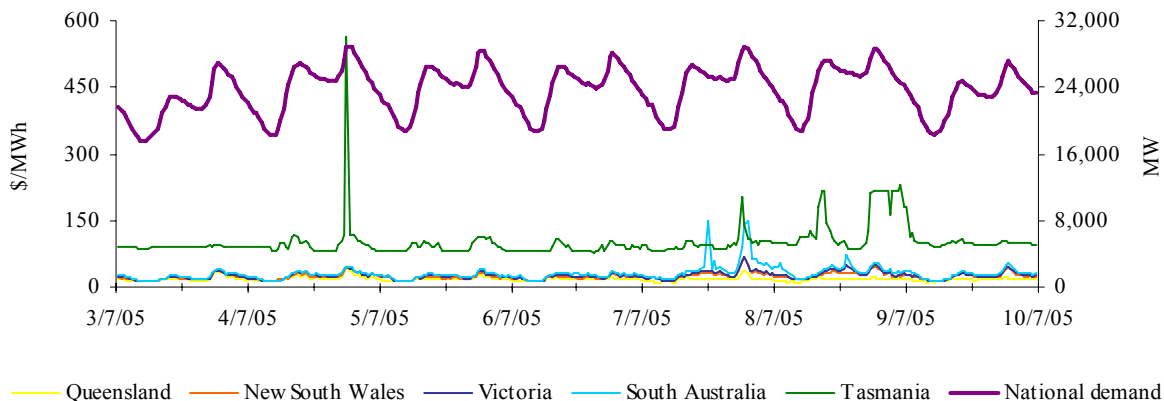
## Energy prices

Figure 1 compares the volume weighted average price with the averages for the previous week, the same quarter last year and for the year to June 2005. Figure 2 sets out national demand and spot prices in each region for each trading interval. Figure 3 compares the weekly price volatility index with the averages for the previous week and the same quarter last year.

**Figure 1: volume weighted average spot price for energy market (\$/MWh)**

	QLD	NSW	VIC	SA	TAS
Last week	18	25	26	32	103
Previous week	22	25	26	33	101
Same quarter last year	27	31	28	36	-
Financial year 2004 - 05	31	46	29	39	-
% change from previous week	▼17%	▼3%	▼0.3%	▼1%	▲1%
% change from same quarter last year	▼32%	▼22%	▼8%	▼11%	-
% change from 2003 - 04	▼1%	▲24%	▲7%	0%	-

**Figure 2: national demand and spot prices**

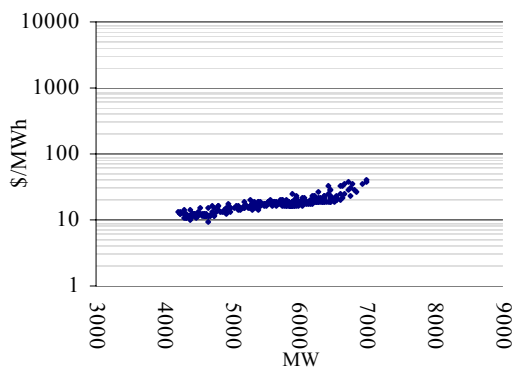


**Figure 3: volatility index during peak periods**

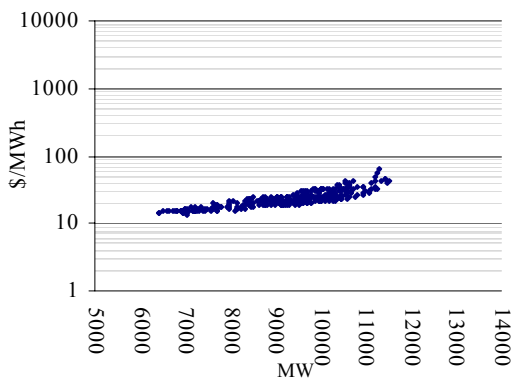
	QLD	NSW	VIC	SA	TAS
Last week	0.32	0.49	0.53	0.66	0.43
Previous week	0.35	0.35	0.41	0.43	0.56
Same quarter last year	0.68	0.76	0.66	0.60	-

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

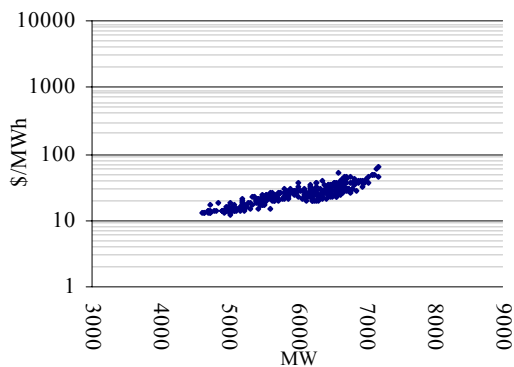
**Figure 4: Queensland**



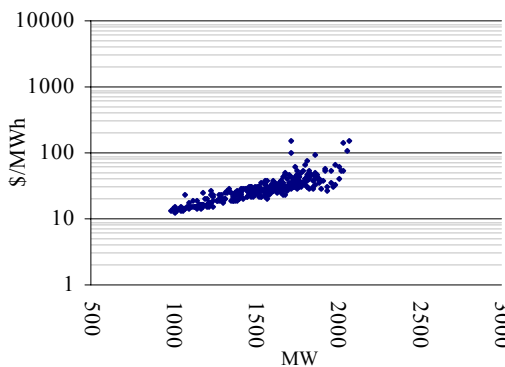
**Figure 5: New South Wales**



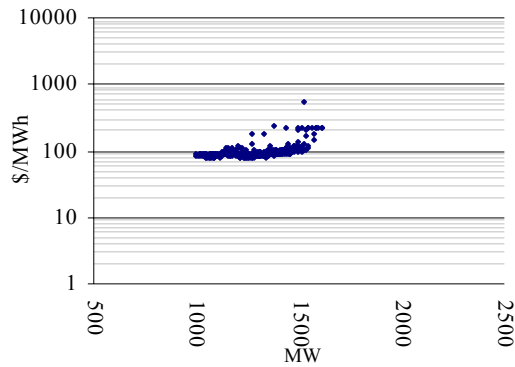
**Figure 6: Victoria**



**Figure 7: South Australia**



**Figure 8: Tasmania**



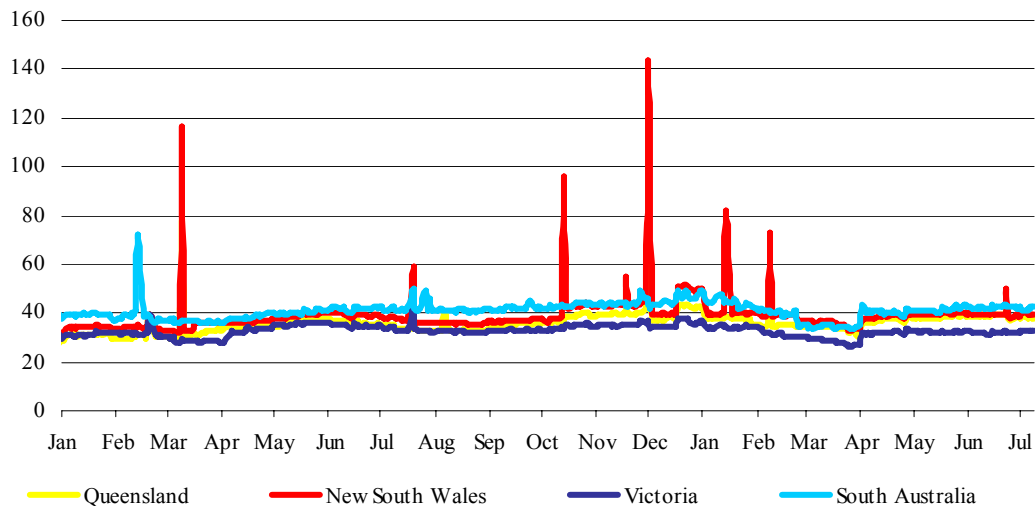
Spot prices peaked at \$563/MWh in Tasmania on Monday evening. In South Australia spot prices peaked twice at \$149/MWh on Thursday. New South Wales and Victoria both peaked at \$65/MWh, while spot prices in Queensland peaked at \$39/MWh.

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	38.55	38.04	38.19	37.88	37.78
New South Wales	39.85	39.35	39.24	39.62	39.62
Victoria	32.81	32.78	32.52	32.79	32.73
South Australia	41.25	41.62	42.24	42.37	42.40

**Figure 10: d-cyphaTrade WEPI**

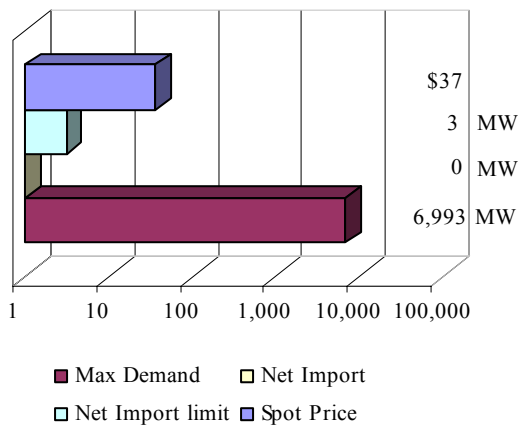


**Reserve**

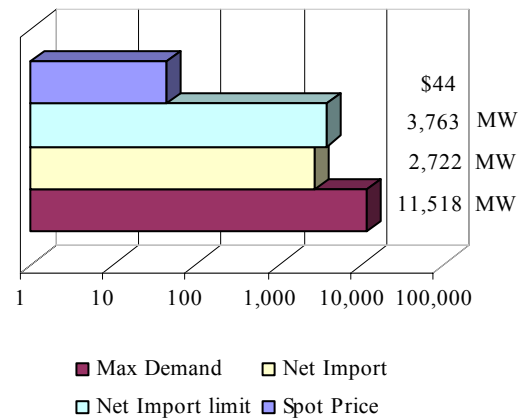
There were no low reserve conditions forecast throughout the week. Figures 11 to 14 show spot price, net imports and limits at the time of weekly maximum demand.

**Figures 11 to 14: spot price, net import and limit at time of weekly maximum demand**

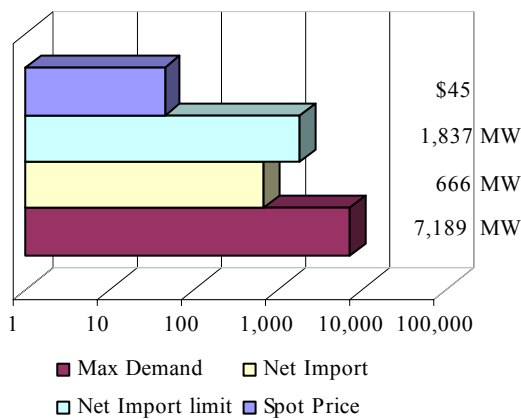
**Figure 11: Queensland**



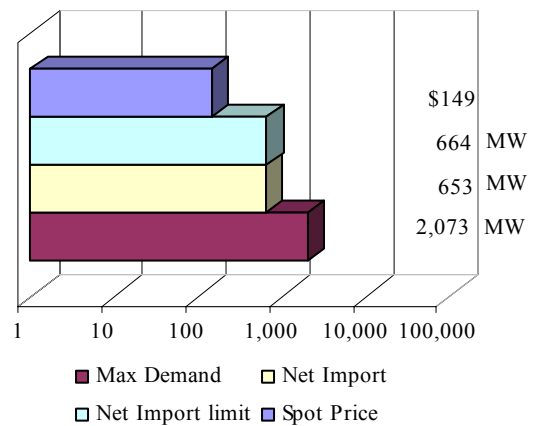
**Figure 12: New South Wales**



**Figure 13: Victoria**



**Figure 14: South Australia**

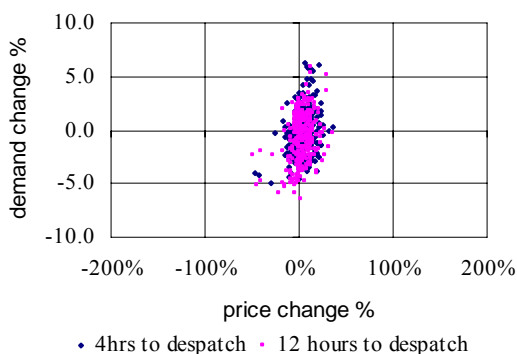


In Tasmania the demand reached a maximum of 1,616MW on Friday morning. The spot price at the time reached \$214/MWh.

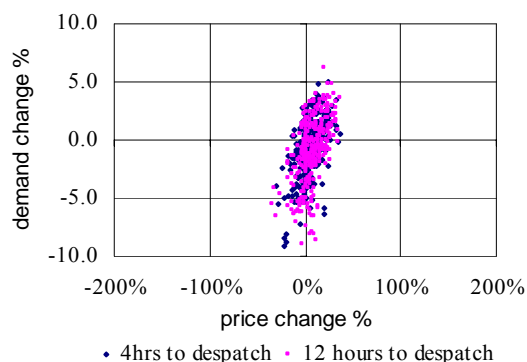
**Price variations**

There were 35 trading intervals where significant variations between forecast and actual prices occurred, calculated 4 and 12 hours ahead of despatch. Figures 15 to 18 set out the correlation between the actual price and demand and those forecast. The information is presented in terms of the percentage difference from actual. Price differences beyond 200 per cent have been capped.

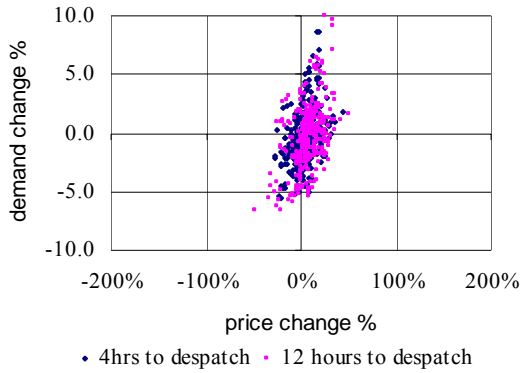
**Figure 15: Queensland**



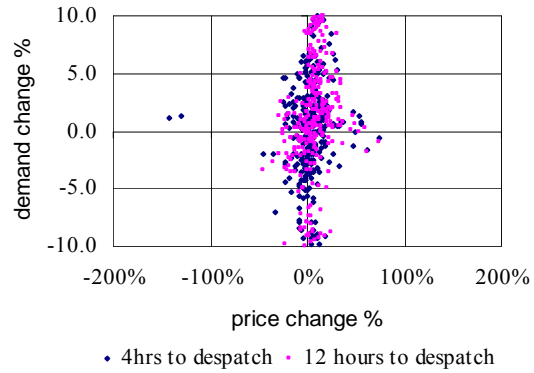
**Figure 16: New South Wales**



**Figure 17: Victoria**



**Figure 18: South Australia**



**Figure 19: Tasmania**

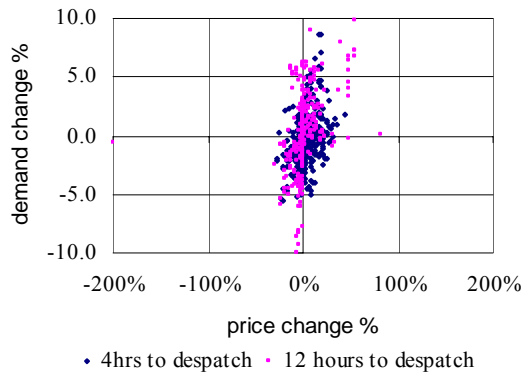
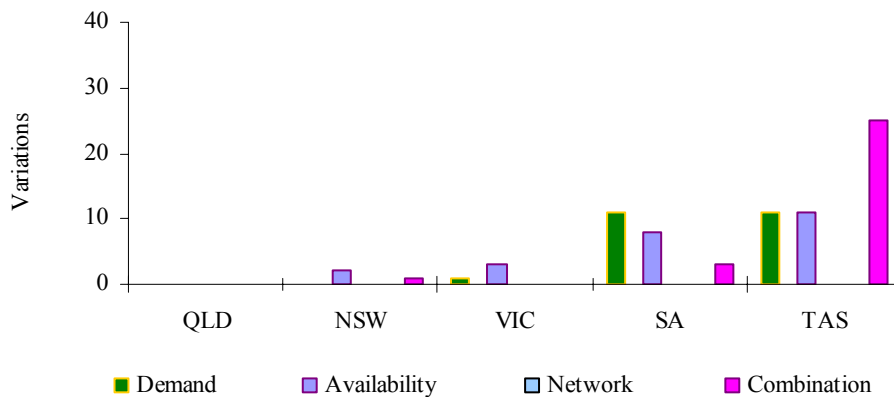


Figure 20 summarises the number and most probable reason for variations between forecast and actual prices.

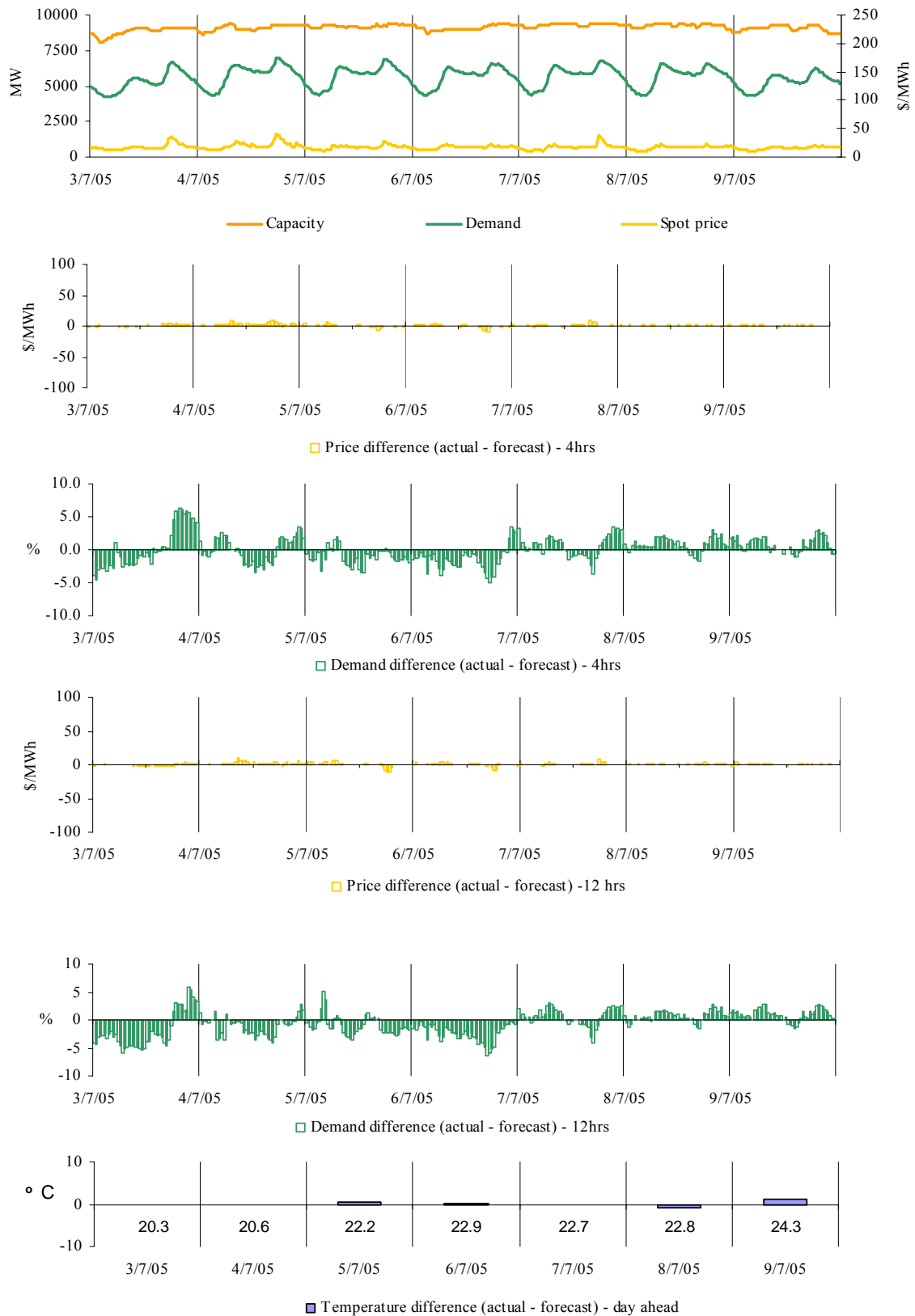
**Figure 20: reasons for variations between forecast and actual prices**



**Price and demand**

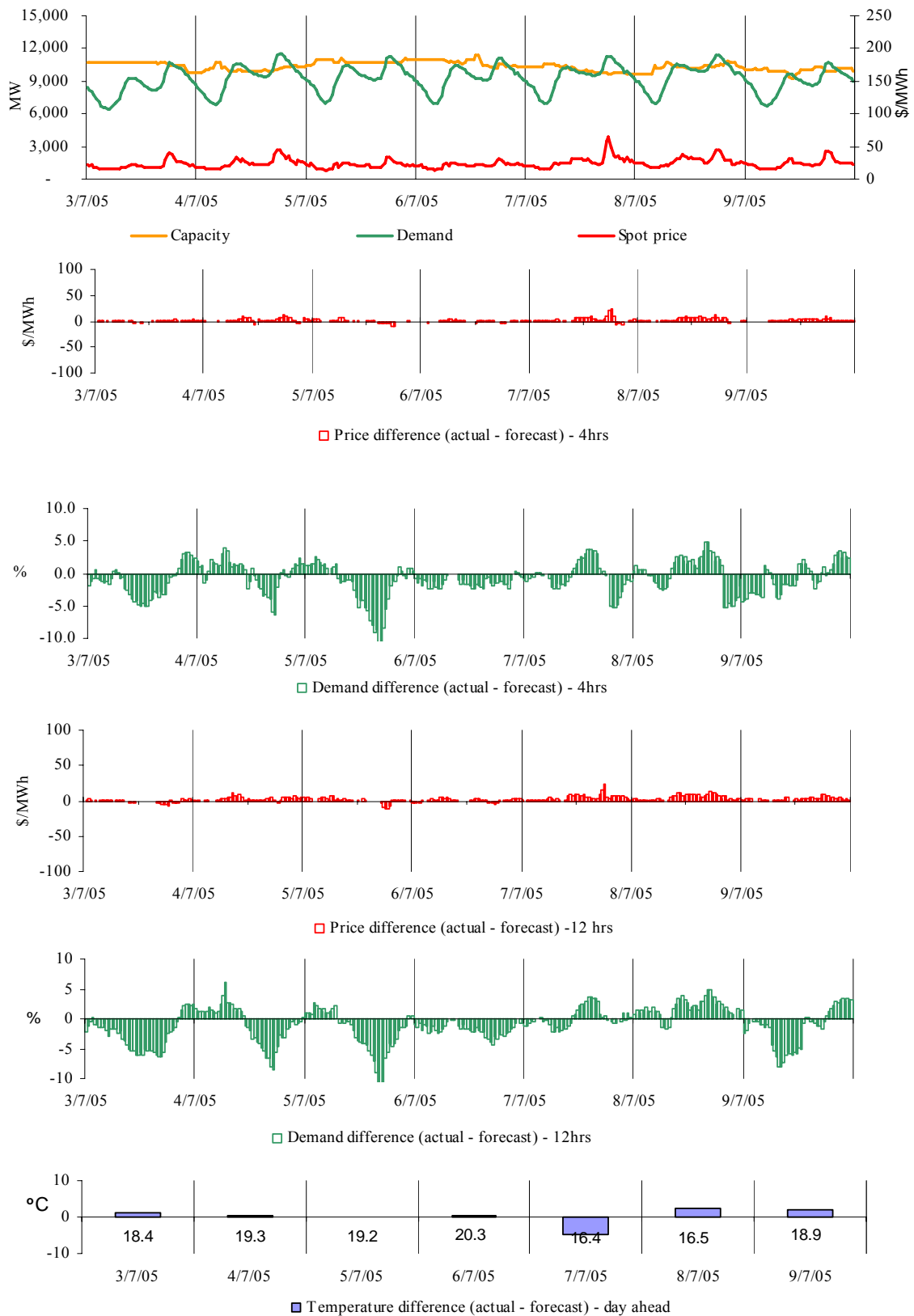
Figures 21 – 50 set out details of spot prices and demand on a regional basis. They include the actual spot price and demand outcomes and difference graphs both four and twelve hours ahead of despatch on a daily basis. The differences between the maximum temperature and the temperature forecast at around 6.00 pm the day before are also included. Figures 51 - 55 set out, for each region, the extent of capacity offered into the market within a series of price thresholds. Actual price and generation despatched in a region are overlaid.

**Figures 21-26: Queensland actual spot price, demand and forecast differences**



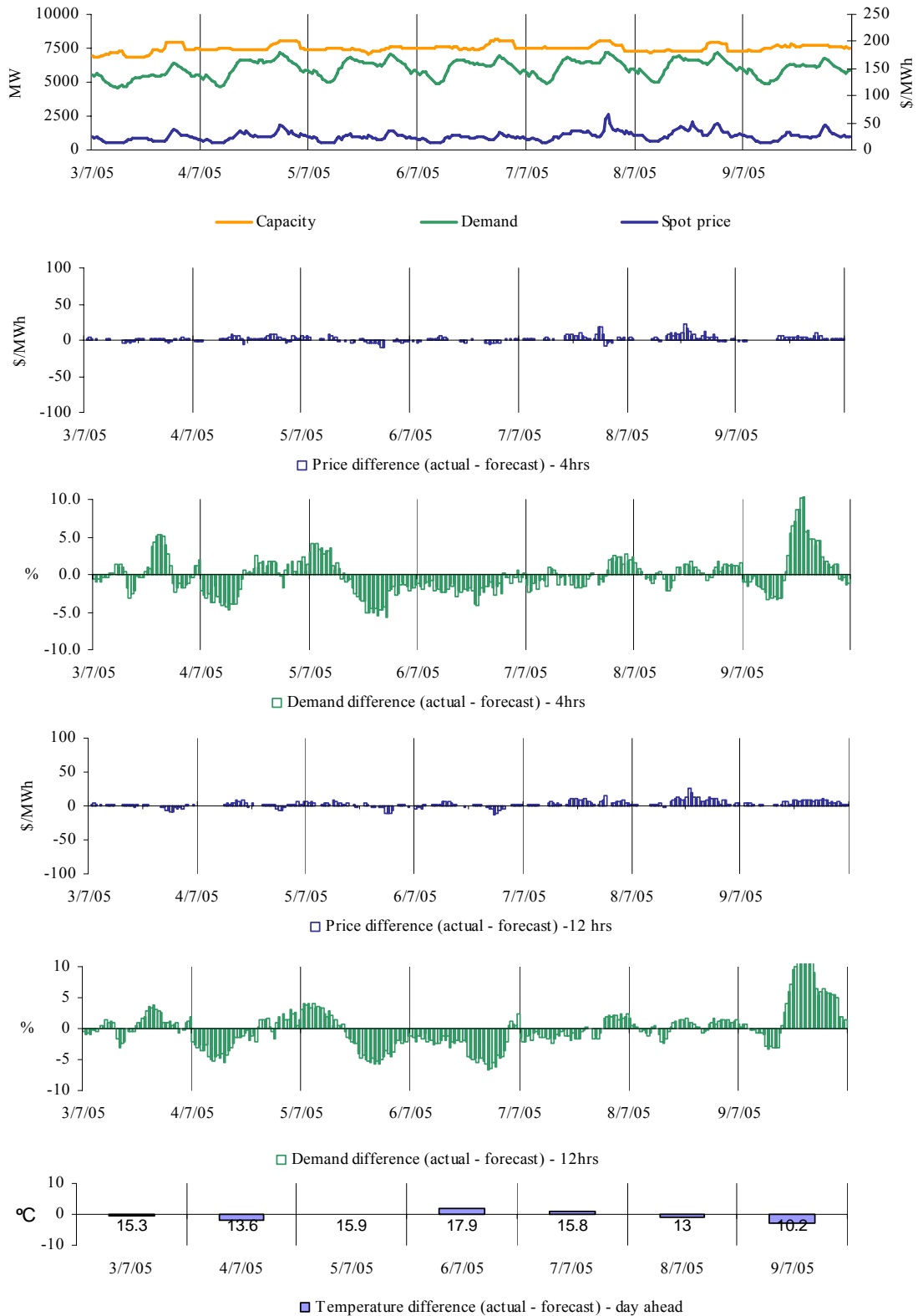
There were no occasions in Queensland where the spot price was greater than three times the weekly average price of \$18/MWh.

**Figures 27-32 New South Wales actual spot price, demand and forecast differences**



There were no occasions in New South Wales where the spot price was greater than three times the weekly average price of \$25/MWh.

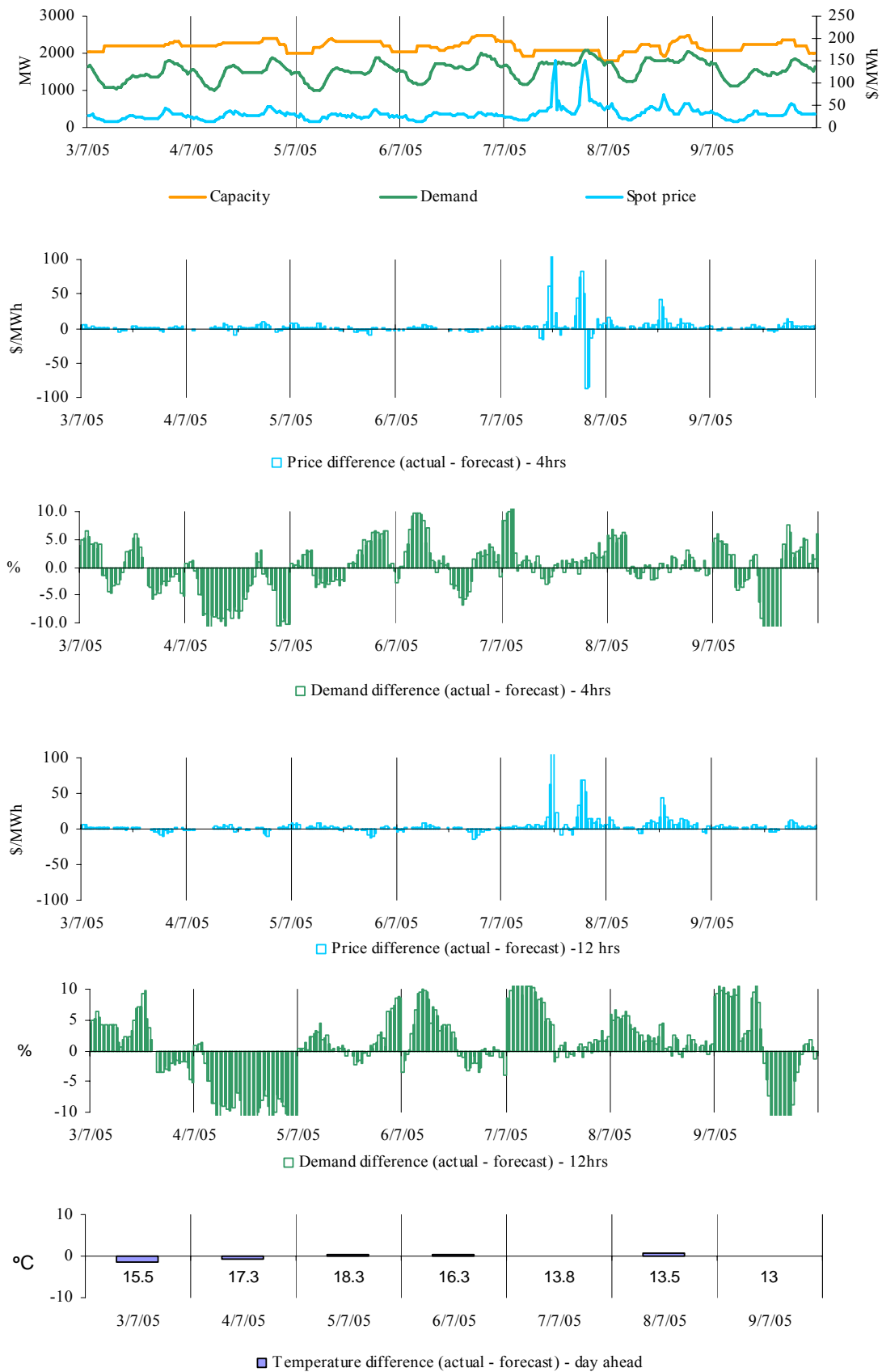
**Figures 33-38: Victoria actual spot price, demand and forecast differences**



There were no occasions in Victoria where the spot price was greater than three times the weekly average price of \$26/MWh.



**Figures 39-44: South Australia actual spot price, demand and forecast differences**



There were 5 occasions in South Australia where the spot price was greater than three times the weekly average price of \$32/MWh. These occurred at 11.30am, midday and between 6.30pm and 7.30pm on Thursday.

### Thursday, 7 July

<b>11:30 am</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	100.62	39.41	38.10
Demand (MW)	1,713	1,743	1,745
Available capacity (MW)	2,080	2,085	2,085
<b>midday</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	149.00	38.10	38.10
Demand (MW)	1,722	1,733	1,738
Available capacity (MW)	2,080	2,085	2,085

Conditions at the time saw demand close to forecast. Testing on the MurrayLink interconnector saw flows into South Australia limited below 15MW for most of the period. Constraints invoked to manage the test were first invoked at 11.02am, effective 11.15am.

At 10.07am, TRU Energy shifted 80MW of capacity from prices of \$38/MWh to \$299/MWh at Torrens Island units A2 and A4. The rebid reason given was “Market conditions – gen response to pd conditions”. A rebid made shortly after at 10.19am shifted 50MW of capacity from \$299/MWh to the price floor across the remaining online units B1 and B3, partially offsetting the initial rebid. The rebid reason given was “Fuel limits – redist MW (comply with fuel profile)”. An hour later, at 11.11am, effective 11.20am, 110MW of capacity priced at \$55/MWh and 40MW priced at \$99/MWh was shifted to \$149/MWh. The rebid reason given was ‘Material change in 5 min predespatch’.

There was no other significant rebidding.

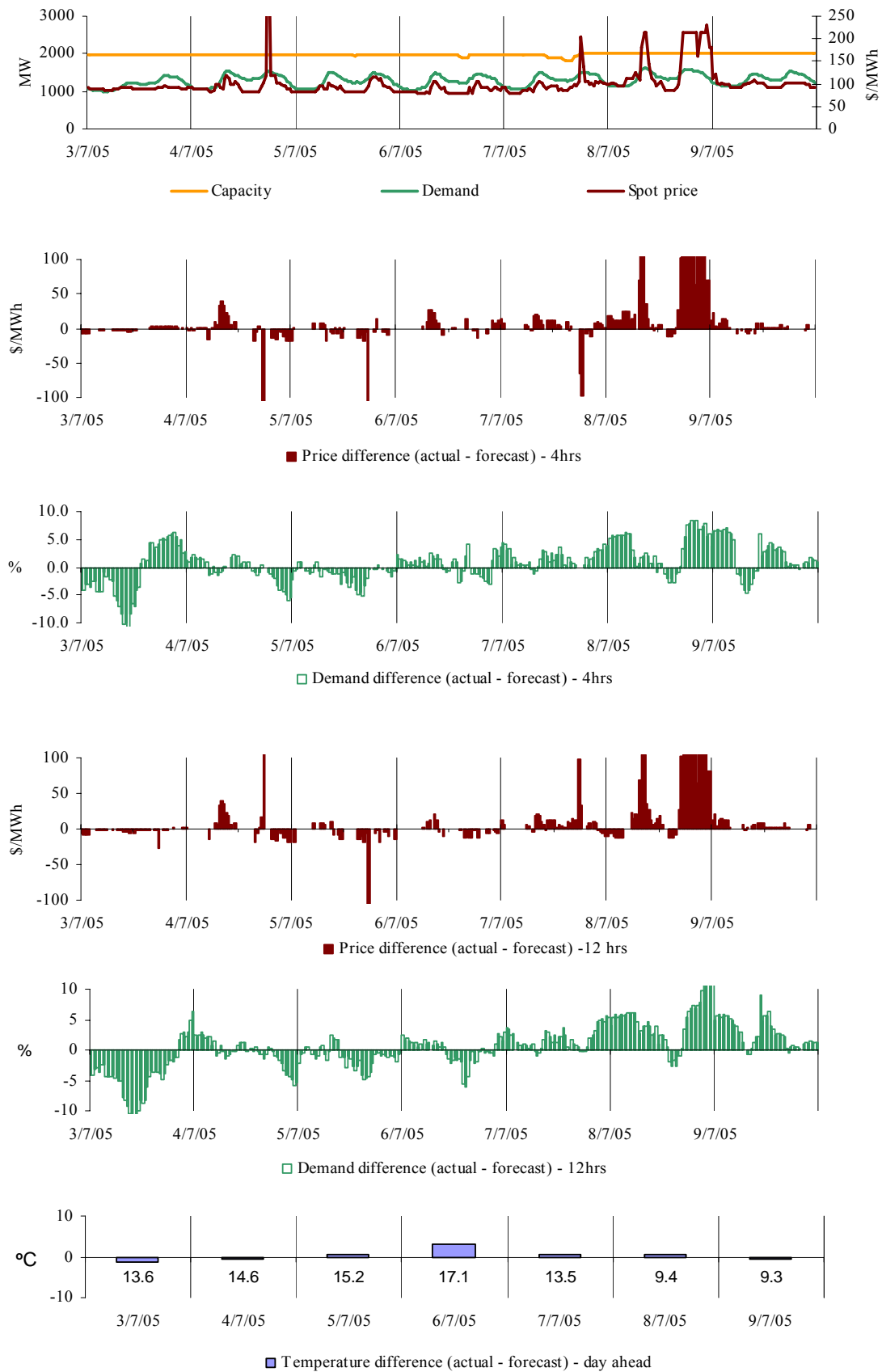
### Thursday, 7 July

<b>6:30 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	140.20	65.34	71.72
Demand (MW)	2,041	2,015	2,027
Available capacity (MW)	2,099	2,080	2,085
<b>7:00 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	149.00	65.63	80.03
Demand (MW)	2,073	2,056	2,072
Available capacity (MW)	2,099	2,080	2,085
<b>7:30 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	108.25	57.30	56.03
Demand (MW)	2,061	2,026	2,034
Available capacity (MW)	2,099	1,917	1,922

Conditions at the time saw demand close to forecast. South Australia was importing around 650MW at the time, with both the Victoria to South Australia interconnector and MurrayLink operating at their limits.

At 3.07pm, TRU Energy rebid as much as 240MW of capacity from prices below \$38/MWh to prices of \$149/MWh or higher. The rebid reason given was “Market conditions – Gen response to PD”. There was no other significant rebidding.

**Figures 45-50: Tasmania actual spot price, demand and forecast differences**



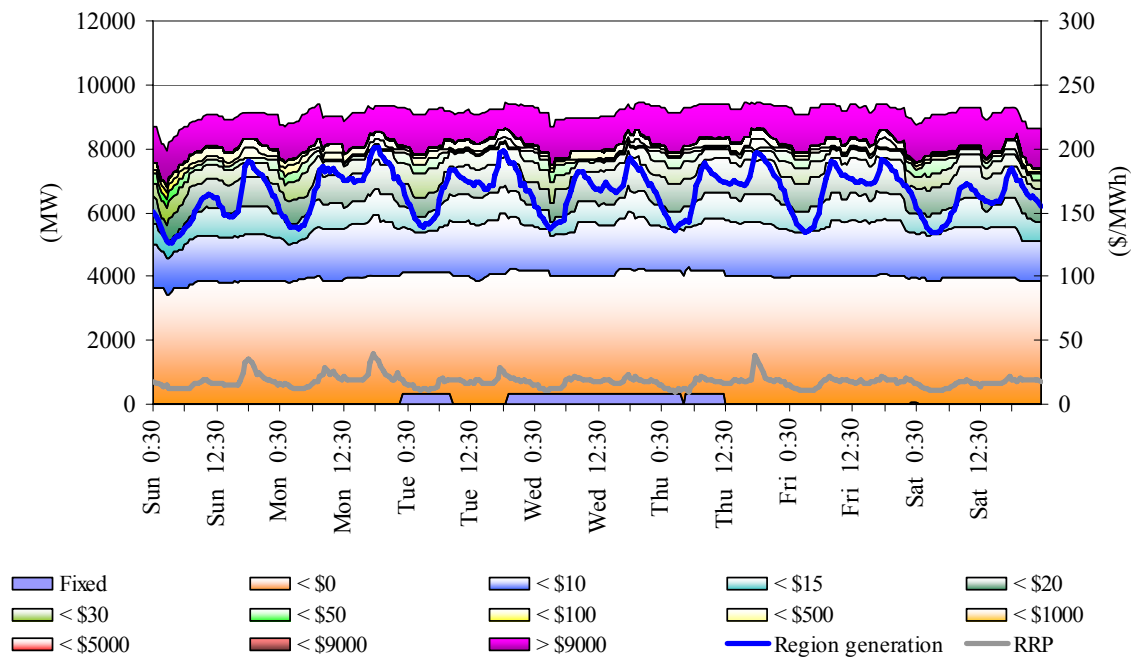
There was one occasion in Tasmania where the spot price was greater than three times the weekly average price of \$103/MWh. This occurred at 6pm on Monday.

**Monday, 4 July**

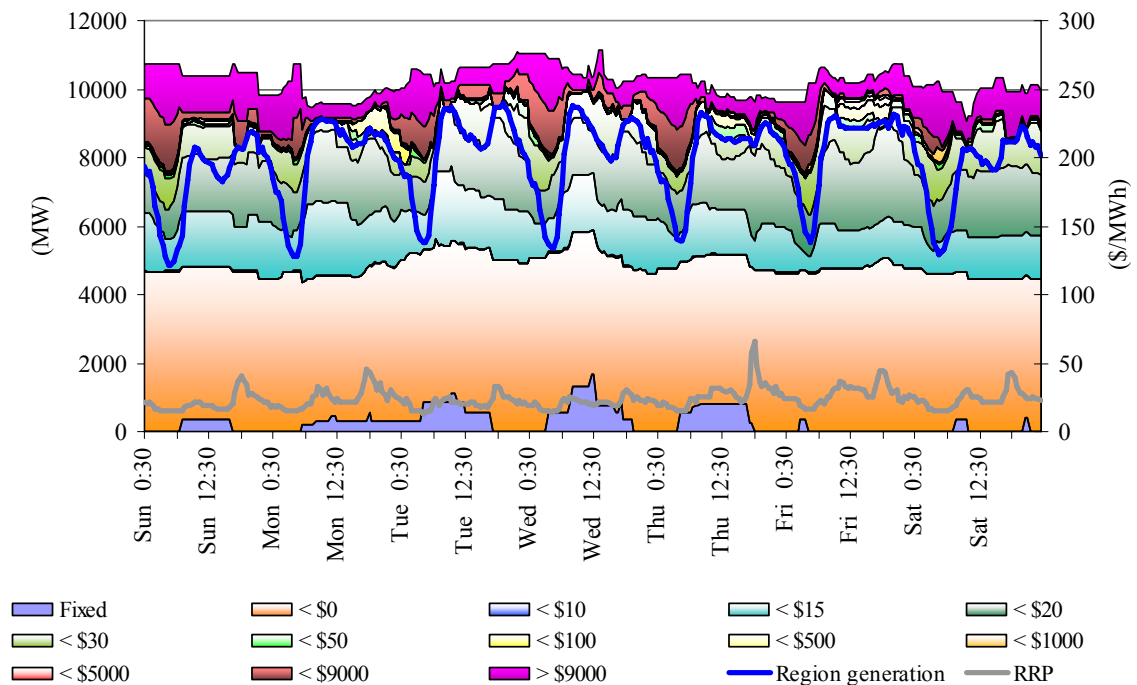
<b>6:00 pm</b>	<b>Actual</b>	<b>4 hr forecast</b>	<b>12 hr forecast</b>
Price (\$/MWh)	562.50	1008.00	100.00
Demand (MW)	1,526	1,529	1,524
Available capacity (MW)	1,958	1,958	1,958

Conditions at the time saw demand as forecast. There was a total availability of 1,522MW priced at less than \$110/MWh. There was no capacity priced between \$110/MWh and \$1,000/MWh. Demand peaked above 1,522MW from 5.45pm before falling below this level at 6.05pm. There was no significant rebidding.

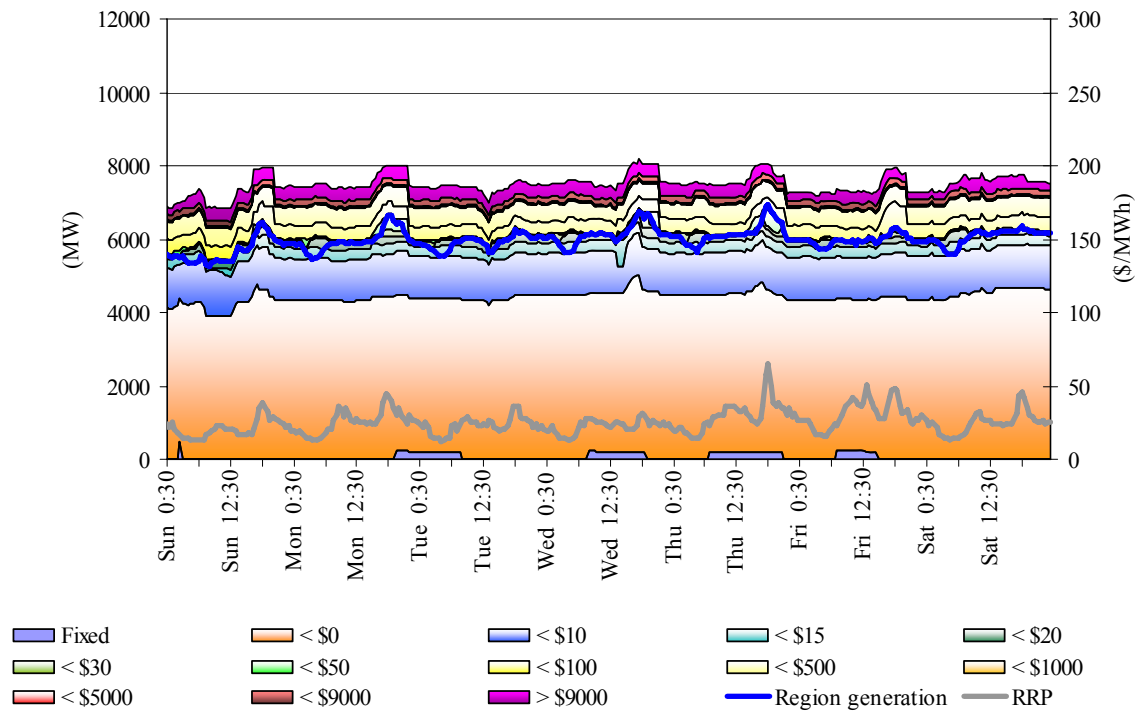
**Figure 51: Queensland closing bid prices, despatched generation and spot price**



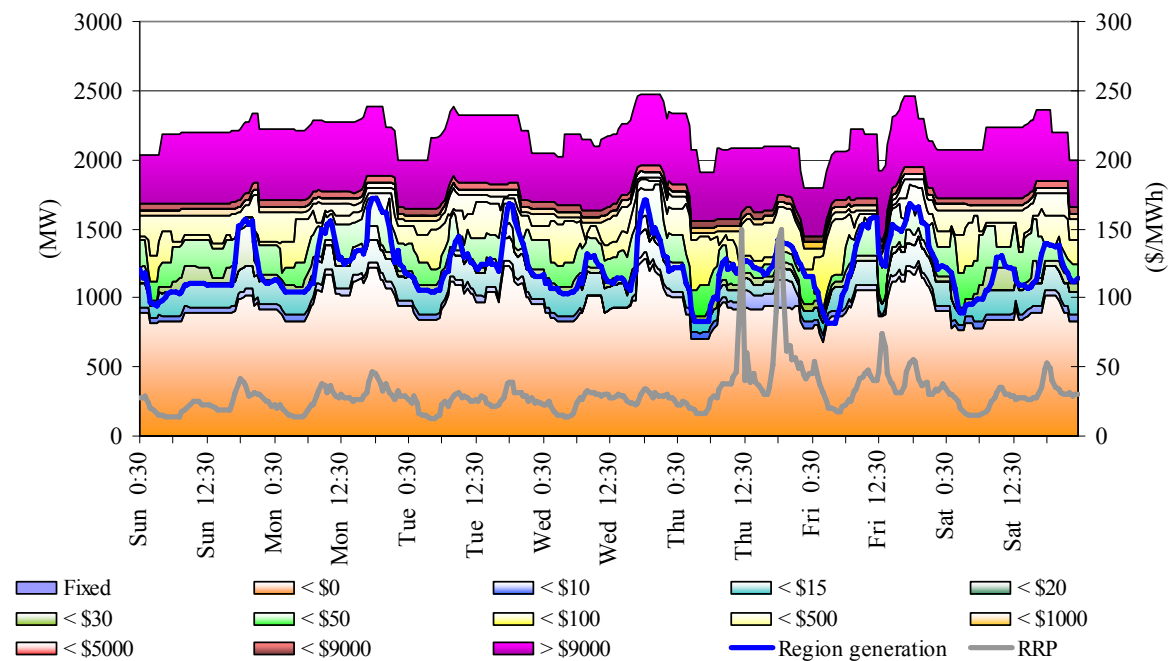
**Figure 52: New South Wales closing bid prices, despatched generation and spot price**



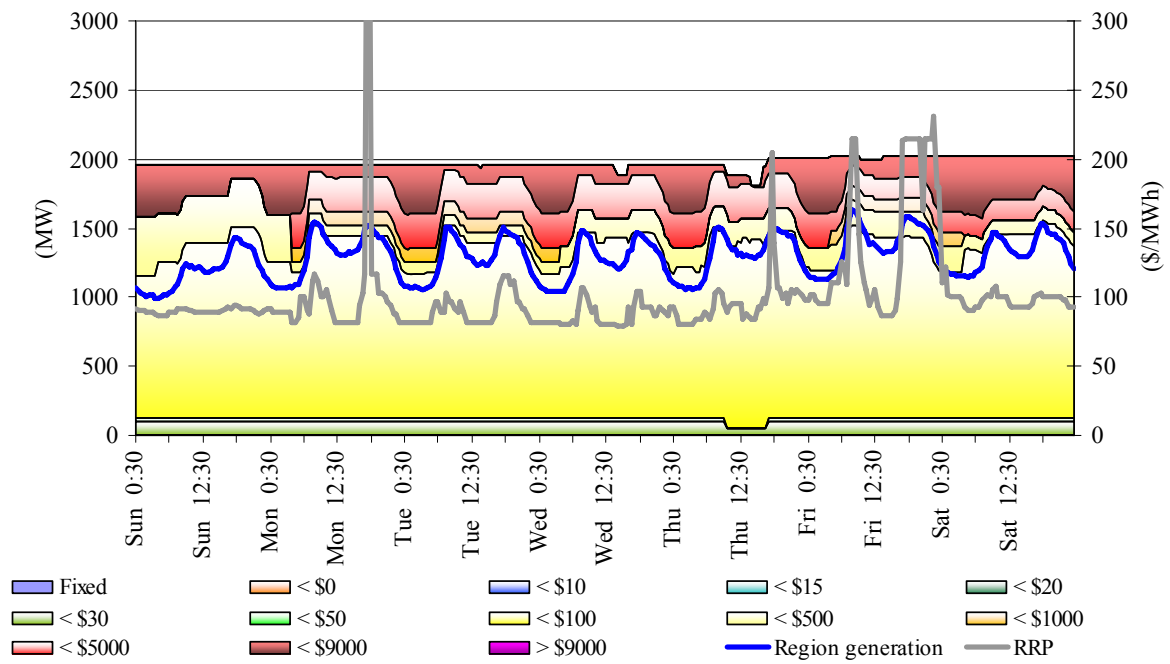
**Figure 53: Victoria closing bid prices, despatched generation and spot price**



**Figure 54: South Australia closing bid prices, despatched generation and spot price**



**Figure 55: Tasmania closing bid prices, despatched generation and spot price**



## Ancillary service market

The total cost of ancillary services for the week was \$445,000 or 0.4 per cent of the total turnover in the energy market. A short notice transmission outage in Victoria on Wednesday led to an increased requirement for lower contingency services. The cost for ancillary services in Tasmania totalled \$135,000 or 0.6 per cent of the energy market turnover for that region. Twice on Tuesday, interruptions to the AGC status of units in Tasmania resulted in zero despatch for both regulation services and prices at the market cap. Figure 56 summarises the volume weighted average prices and costs for the eight frequency control ancillary services across the interconnected regions. Figure 57 summarises the volume weighted average prices and costs for the eight frequency control ancillary services for Tasmania.

**Figure 56: volume weighted average frequency control ancillary service prices**

	Raise 6 sec	Raise 60 sec	Raise 5 min	Raise reg	Lower 6 sec	Lower 60 sec	Lower 5 min	Lower reg
Last week (\$)	2.12	0.72	0.78	1.37	0.23	0.49	1.68	1.53
Previous week(\$)	1.71	0.55	0.80	1.25	0.24	1.50	4.56	1.75
Last Quarter(\$)	2.36	1.50	1.41	1.32	2.28	2.13	3.48	1.70
Market Cost (\$1000s)	\$108	\$36	\$52	\$32	\$2	\$4	\$40	\$36
% of energy market	0.12%	0.04%	0.06%	0.04%	0.00%	0.00%	0.04%	0.04%

**Figure 57: volume weighted average frequency control ancillary service price 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 (\$)	2.26	1.05	1.05	1.43	1.05	1.05	1.05	1.05
Previous week(\$)	10.36	1.05	1.05	1.64	1.37	1.05	1.05	1.27
Market Cost (\$1000s)	\$22	\$10	\$12	\$12	\$13	\$31	\$26	\$9
% of energy market	0.10%	0.05%	0.05%	0.05%	0.06%	0.14%	0.12%	0.04%

Figure 58 shows the daily breakdown of cost for each frequency control ancillary service.



**Figure 58: daily frequency control ancillary service costs**

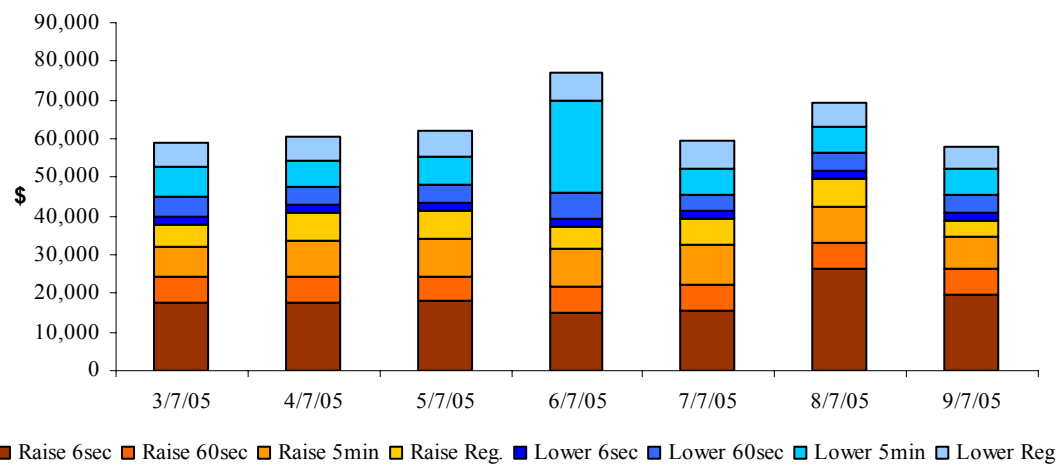
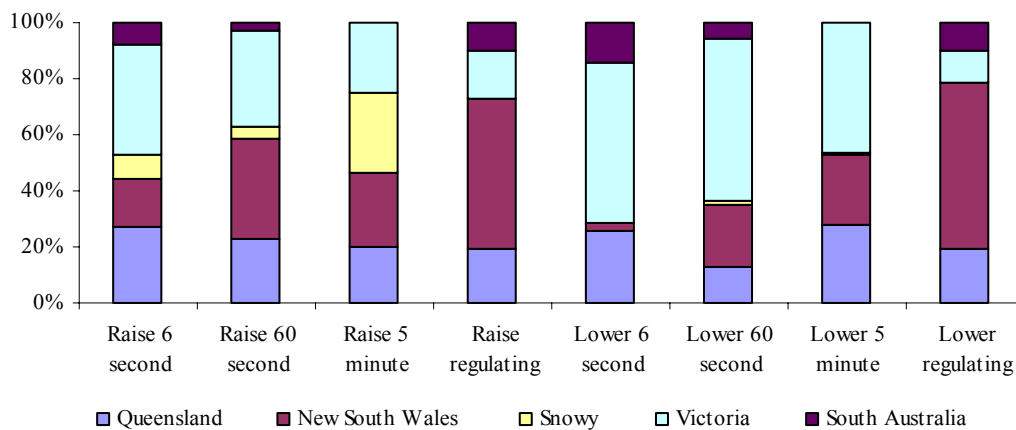


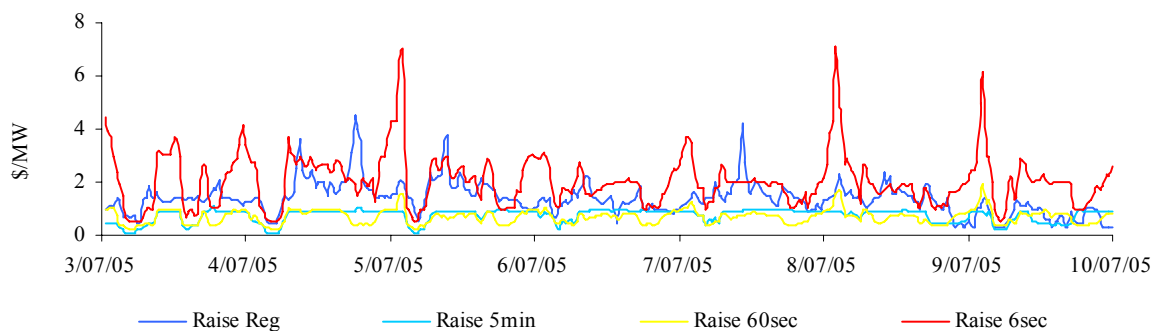
Figure 59 shows the regional weekly participation in each of the ancillary service markets on the mainland.

**Figure 59: regional participation in ancillary services**

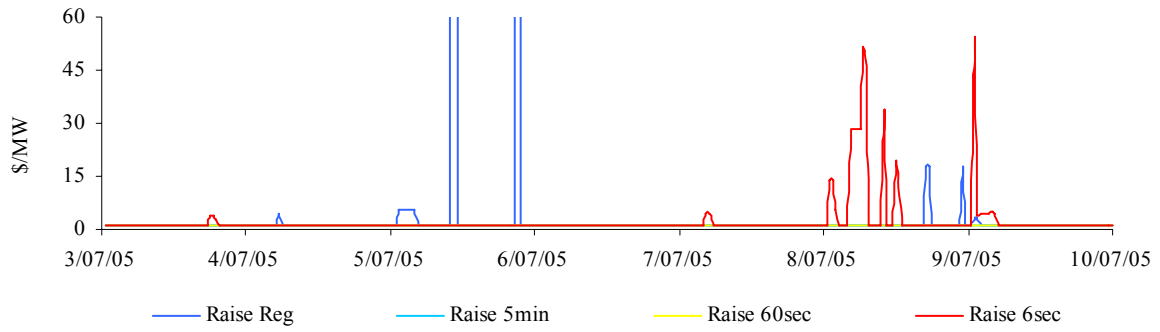


Figures 60 and 61 show 30-minute prices for each of the ancillary services.

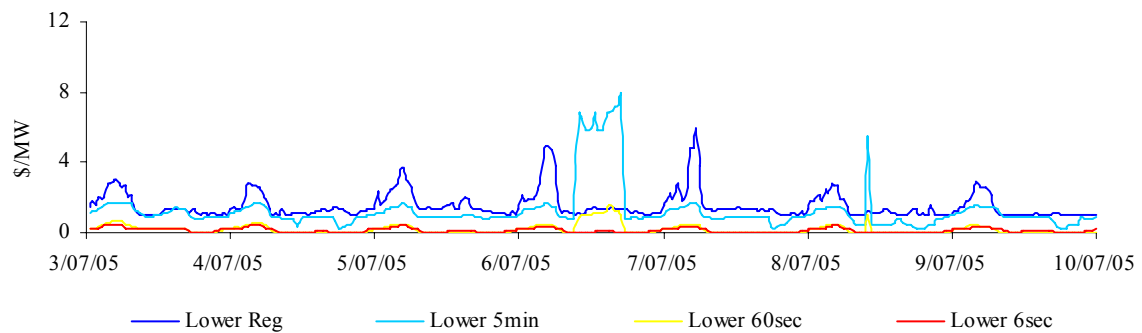
**Figure 60: prices for raise services**



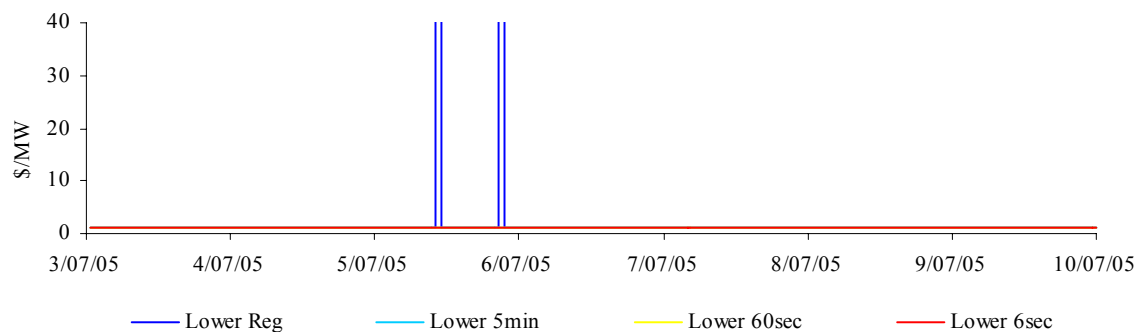
**Figure 60A: prices for raise services - Tasmania**



**Figure 61: prices for lower services**

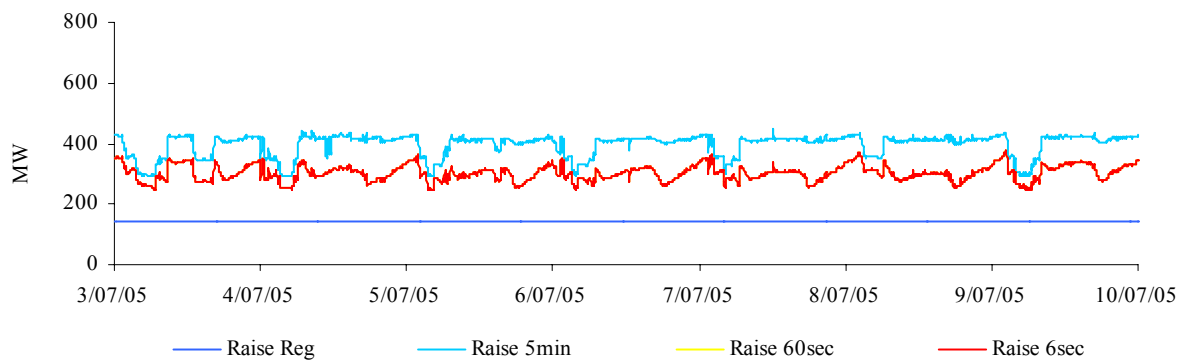


**Figure 61A: prices for lower services - Tasmania**

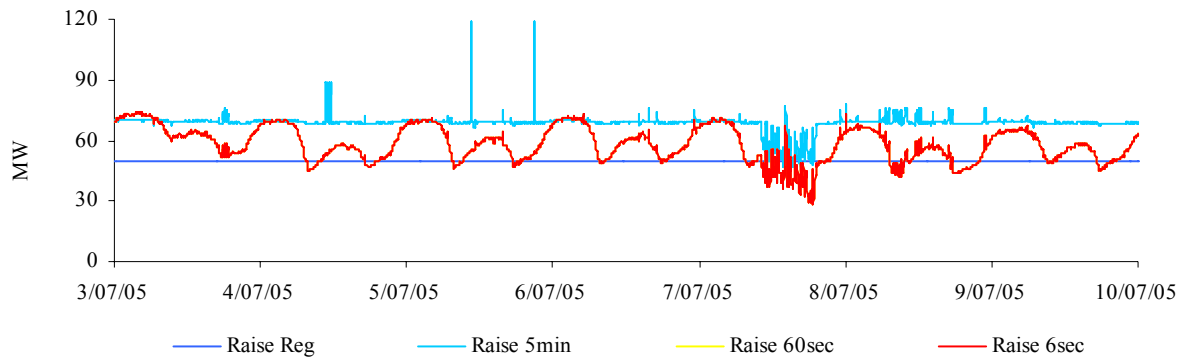


Figures 62 and 63 present for both raise and lower services the requirement for each service over the week.

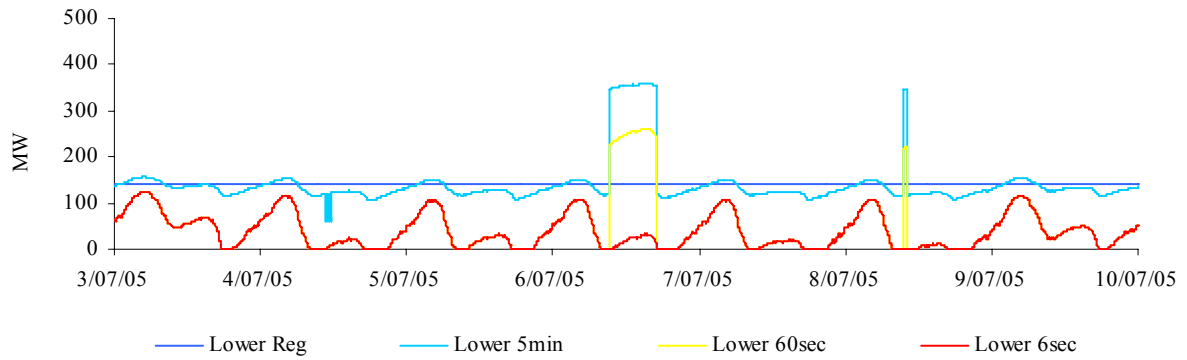
**Figure 62: raise requirements**



**Figure 62A: raise requirements - Tasmania**



**Figure 63: lower requirements**



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

