

27 May – 2 June 2007

Spot prices for the week averaged between \$60/MWh and \$76/MWh in all regions. Cooler temperatures have seen increasing demand across the market.

Turnover in the energy market was \$288 million. The total cost of ancillary services for the week was \$720 000, or 0.25 per cent of energy market turnover.

Significant variations between actual prices and those forecast 4 and 12 hours ahead occurred in 175 or over a half 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 South Australia occurring in almost half of all trading intervals.

Energy prices

Figure 1 sets out the 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 previous financial year.

Figure 1: national demand and spot prices

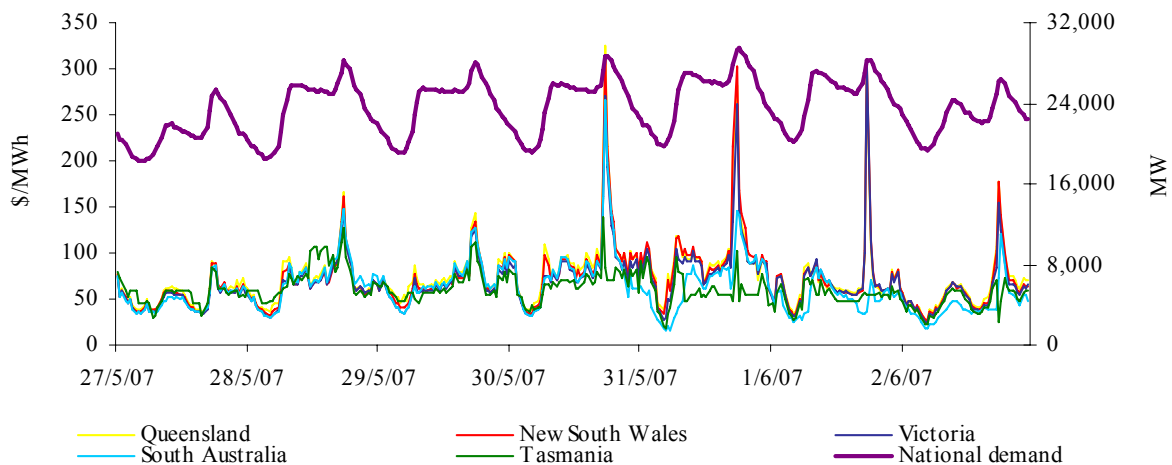


Figure 2: volume weighted average spot price for energy market (\$/MWh)

	QLD	NSW	VIC	SA	TAS
Last week	76	75	71	65	60
Previous week	55	60	60	55	60
Same quarter last year	25	28	30	38	38
Financial year to date	43	47	51	53	48
% change from previous week *	▲39%	▲26%	▲18%	▲20%	0%
% change from same quarter last year **	▲208%	▲173%	▲137%	▲72%	▲60%
% change from year to date ***	▲35%	▲6%	▲42%	▲21%	▼21%

*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.

Figures 3 to 7 show the weekly correlation between spot price and demand.

Figure 3: Queensland

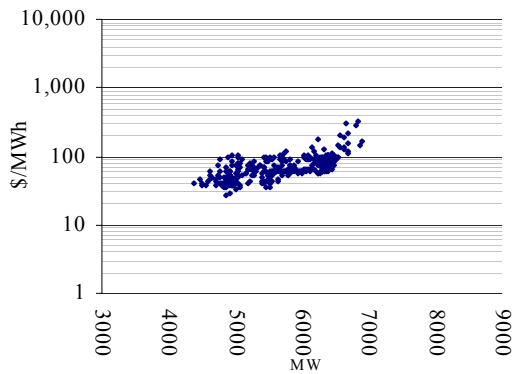


Figure 4: New South Wales

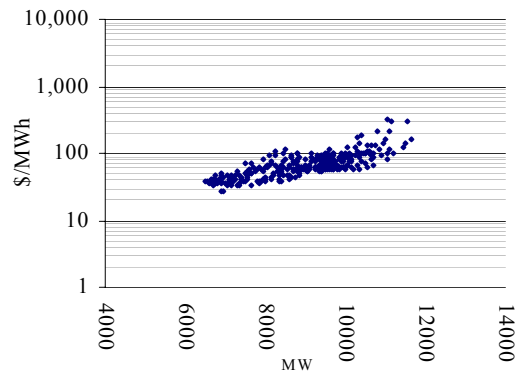


Figure 5: Victoria

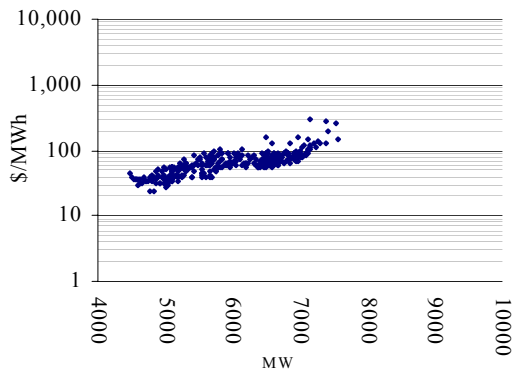


Figure 6: South Australia

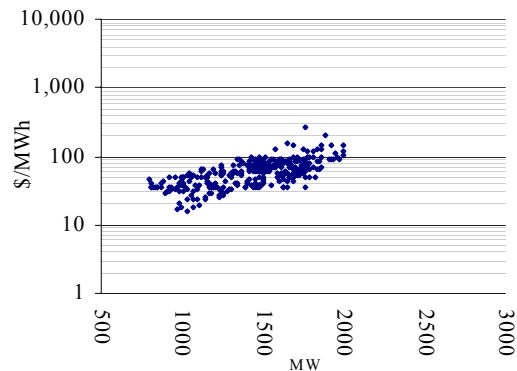
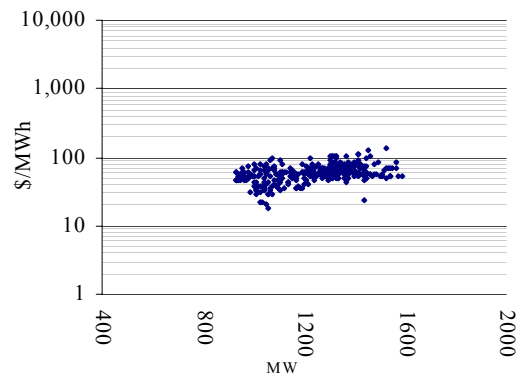


Figure 7: Tasmania



The maximum spot prices for the week occurred on Wednesday evening and ranged from \$139/MWh in Tasmania to \$325/MWh in Queensland. Figure 8 compares the weekly price volatility index with the averages for the previous week and the same quarter last year.

Figure 8: volatility index during peak periods

	QLD	NSW	VIC	SA	TAS
Last week	0.52	0.58	0.51	0.53	0.49
Previous week	0.47	0.56	0.43	0.51	0.39
Same quarter last year	1.07	0.96	0.96	0.94	0.29

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

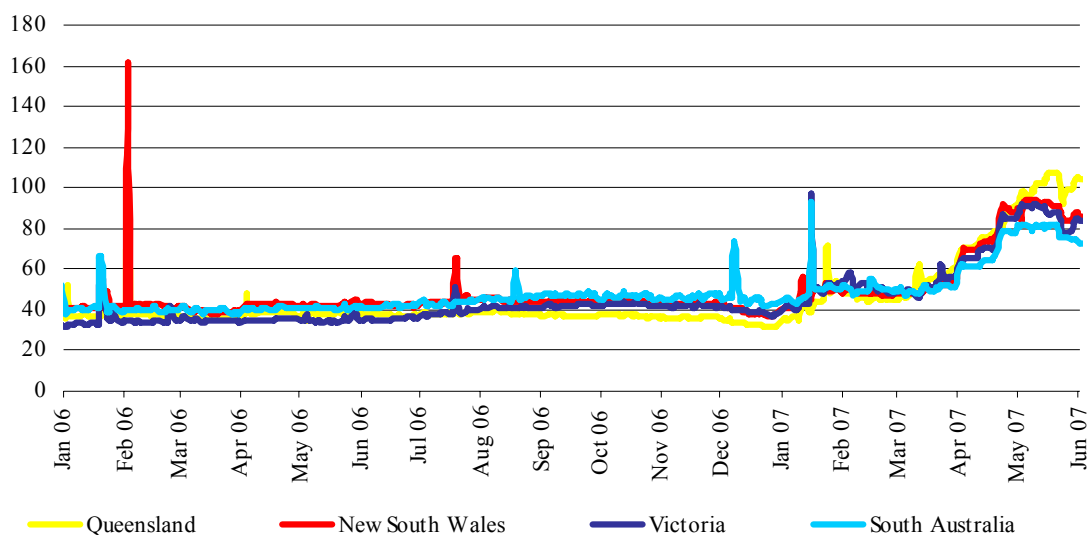
Figure 9 sets out the d-cyphaTrade wholesale electricity price index (WEPI)* for each region throughout the week excluding Tasmania. Figure 10 sets out the WEPI since 1 January 2005.

Figure 9: d-cyphaTrade WEPI for the week

	Monday	Tuesday	Wednesday	Thursday	Friday
Queensland	99.27	102.55	103.91	105.31	104.41
New South Wales	84.04	86.75	86.61	88.04	85.76
Victoria	78.65	82.75	83.88	84.78	83.35
South Australia	74.89	74.85	74.71	73.33	72.31

* The 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
 The WEPI applies for working days only.

Figure 10: d-cyphaTrade WEPI



Reserve

There were no low reserves forecast.

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

Figure 11: Queensland

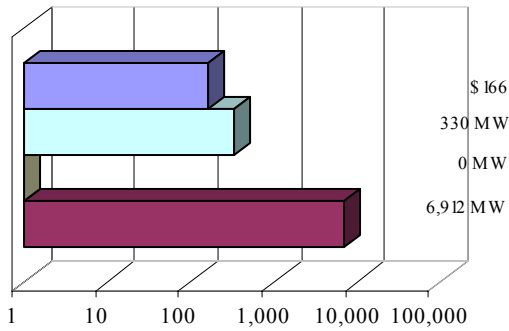


Figure 12: New South Wales

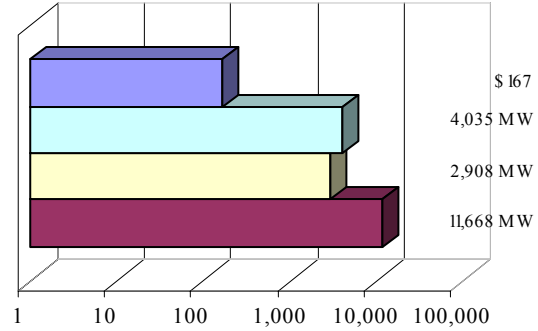


Figure 13: Victoria

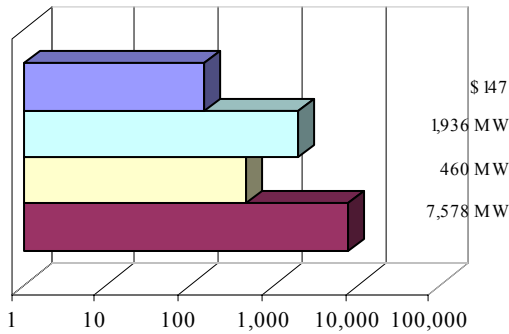


Figure 14: South Australia

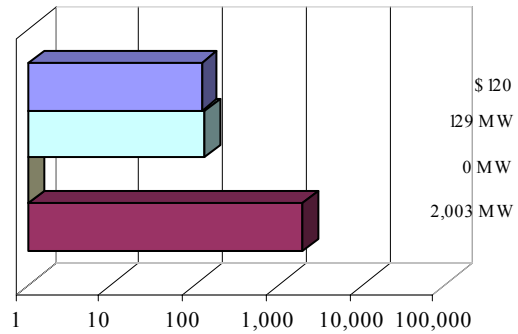
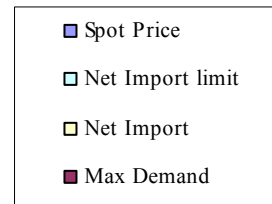
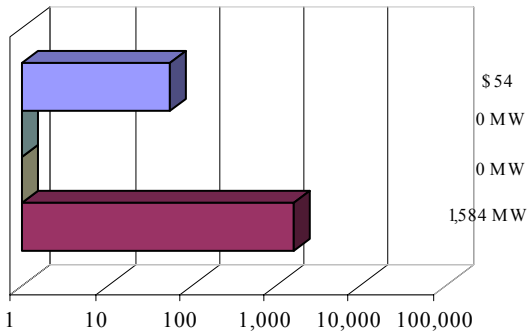


Figure 15: Tasmania



Price variations

There were 175 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

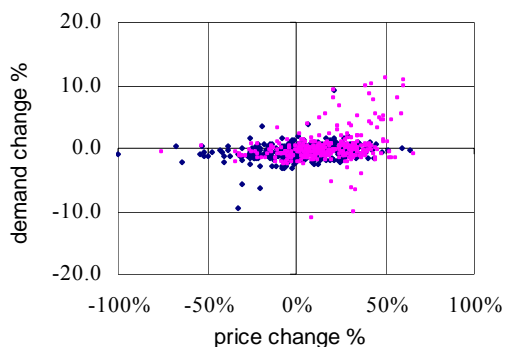


Figure 17: New South Wales

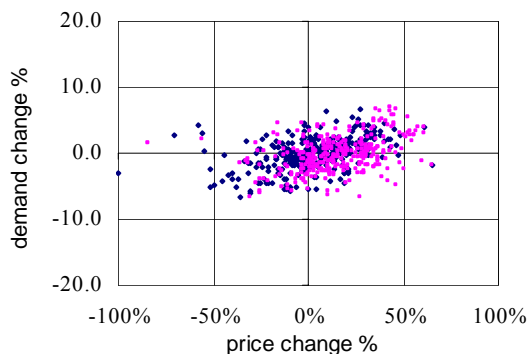


Figure 18: Victoria

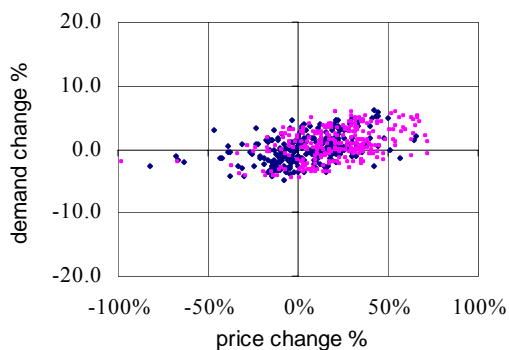


Figure 19: South Australia

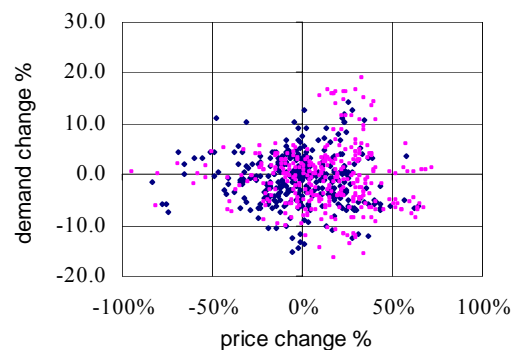


Figure 20: Tasmania

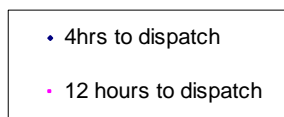
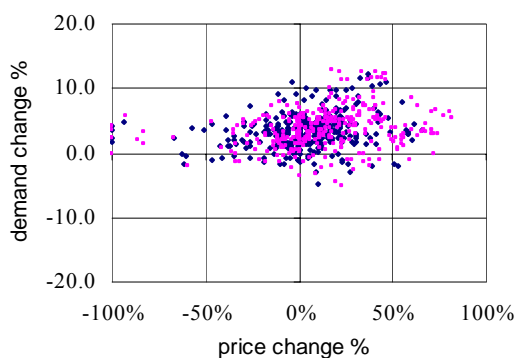
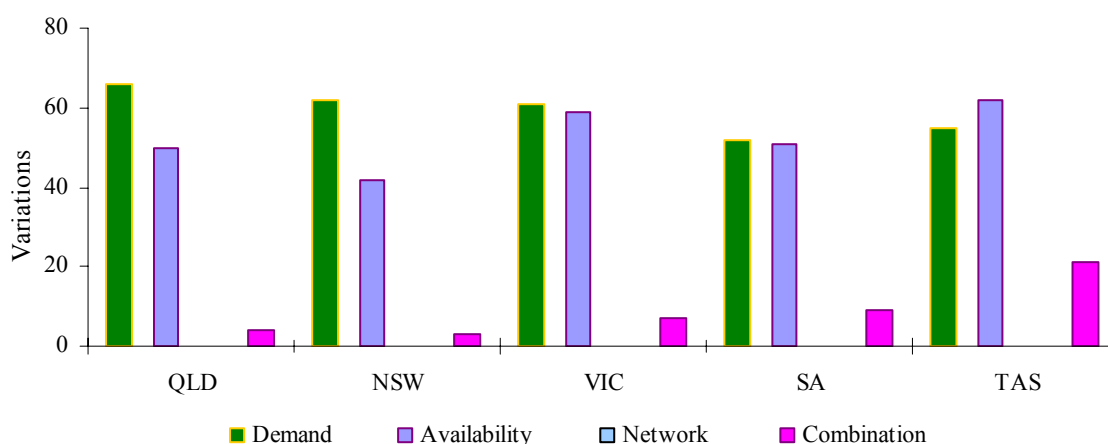


Figure 21 summarises the number and most probable reason for variations between forecast and actual prices.

Figure 21: reasons for variations between forecast and actual prices



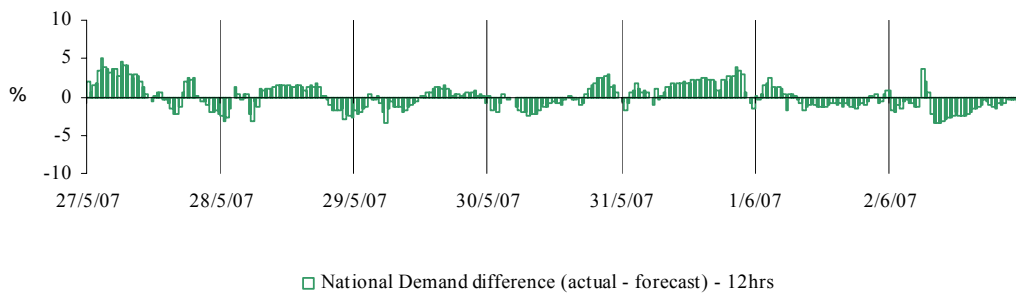
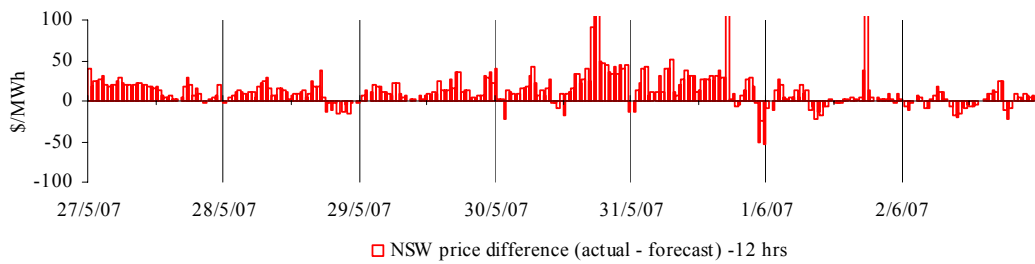
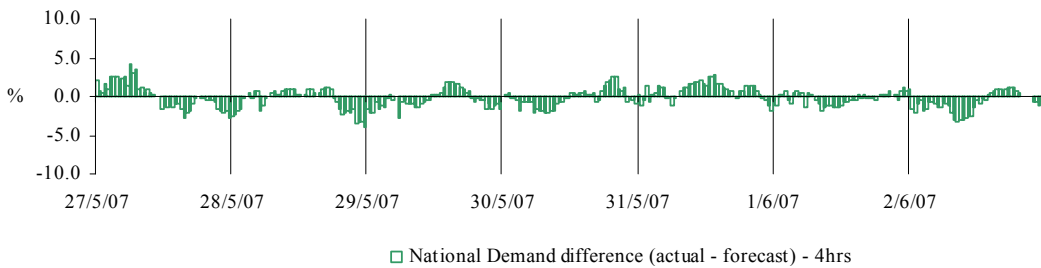
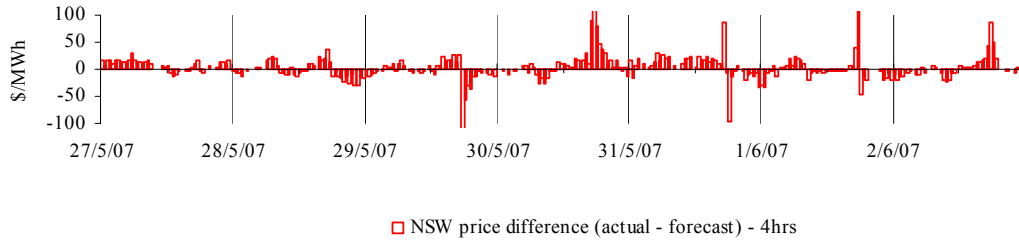
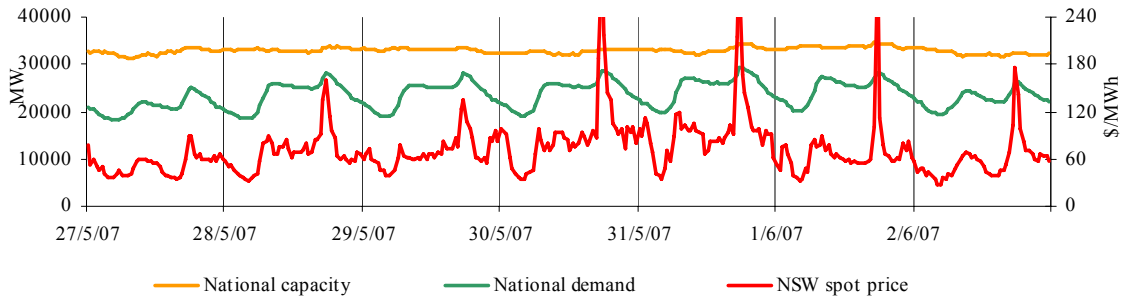
Price and demand

Figures 22 – 56 set out details of spot prices and demand on a national and regional basis. They include the actual spot price, actual demand and variation from forecasts made 4 and 12 hours ahead of dispatch.

Spot prices within the national market are regularly aligned, with conditions in one region reflected across all others. The national market outcomes section highlights pricing events that occurred when spot prices were generally aligned across all regions of the national electricity market – the New South Wales spot price has been used to represent a pseudo national price under these conditions.

On a regional basis the differences between the maximum temperature and the temperature forecast at around 6.00 pm the day before are also included. In each section, the occurrences of all prices for the week greater than three times the average have been presented. The price forecast is compared to the demand and availability forecasts made 4 and 12 hours ahead, with significant changes to these forecasts explained.

Figures 22-26: National market outcomes



There were three occasions where spot prices were generally aligned nationally and the New South Wales price was greater than three times the New South Wales weekly average price of \$75/MWh.

Wednesday, 30 May

6:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	311.33	168.73	156.99
Demand (MW)	28 637	28 447	28 514
Available capacity (MW)	33 089	34 228	34 534

Conditions at the time saw demand close to forecast four and 12 hours ahead. Availability was 1100 MW lower than forecast.

At 7.48 am Millmerran Energy Trader delayed the return to service of Millmerran unit two after an unplanned two day outage. This saw a reduction of 435 MW in available capacity, all priced below zero.

From midday, over several rebids, Flinders Power delayed the return to service of Northern unit two after a three day outage. This saw a reduction of 264 MW in available capacity, all priced below \$15/MWh.

Throughout the day, over a number of rebids, LYMMCO delayed the return of Loy Yang A3 following a long term outage. At 3.58 pm this delay was extended through the evening peak, reducing 560 MW of available capacity, most of which was priced below \$10/MWh. The unit returned to service late on Friday night.

There was no other significant rebidding.

Thursday, 31 May

6:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	301.61	308.31	300.00
Demand (MW)	29 239	29 316	28 969
Available capacity (MW)	34 121	34 161	34 532

Conditions at the time saw price and available capacity close to forecast four and 12 hours ahead. Demand was close to forecast but at its highest level for the market since summer.

There was no significant rebidding.

Friday, 1 June

6:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	306.77	108.11	107.31
Demand (MW)	28 319	28 363	28 664
Available capacity (MW)	34 438	35 211	35 356

Conditions at the time saw national demand close to forecast. Available capacity was 770 MW lower than forecast four hours ahead and 920 MW lower than forecast 12 hours ahead.

A planned outage on the Heywood interconnector and an unplanned outage on Murraylink saw exports from South Australia constrained to 25 MW. Tasmania was exporting at its nominal limit of 594 MW.

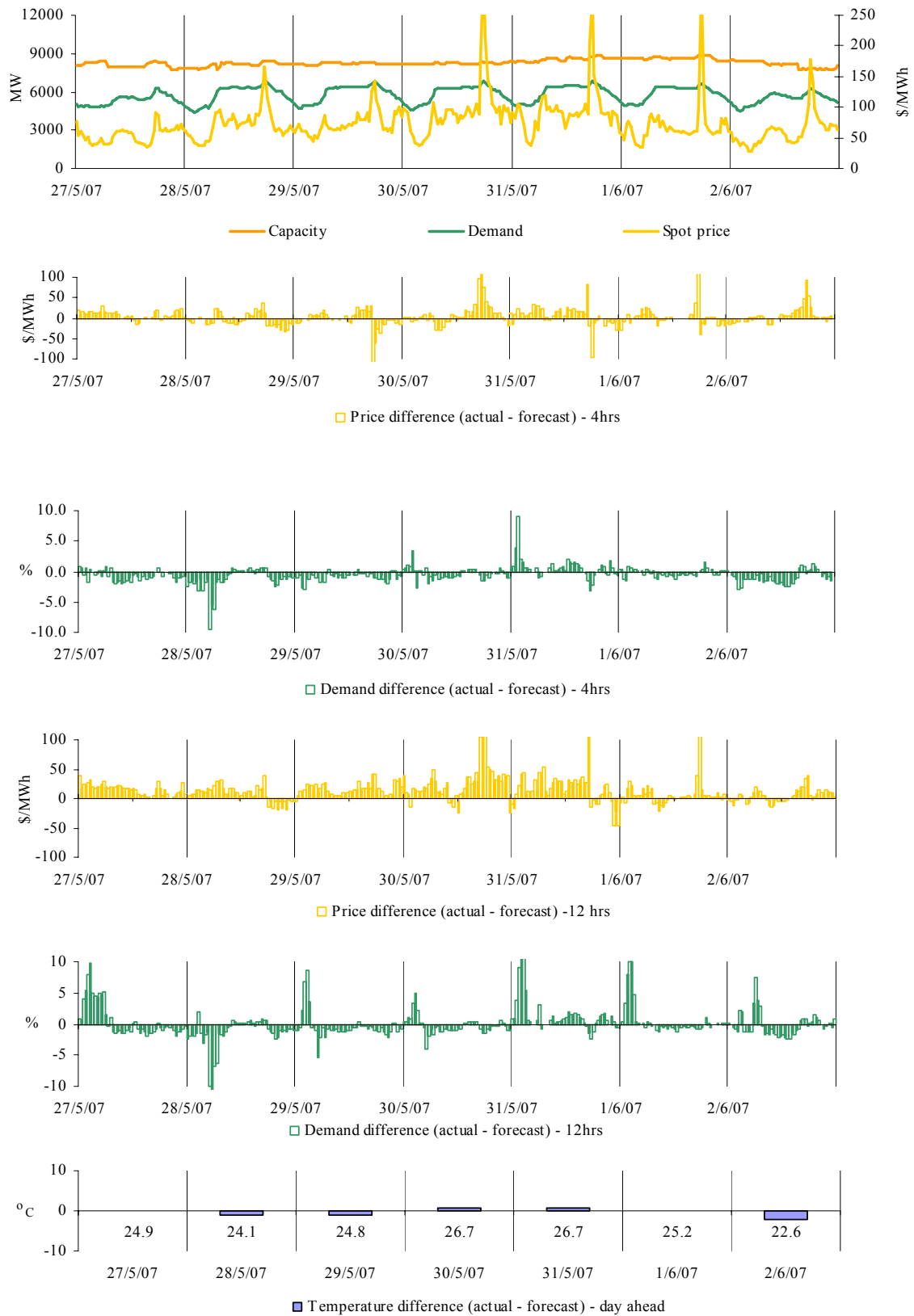
At 12.12 pm Braemar Power Projects rebid 160 MW at Braemar unit two from prices below \$35/MWh to above \$9000/MWh. The rebid reason given was “Manage gas constraints”.

The delays in the return of LYMMCO’s LoyYang A3 return to service continued. At 1.50 pm the delay was extended, reducing 560 MW of the available capacity, most of which was priced below \$10/MWh. The unit returned to service from 8 pm.

At 5.43 pm TRUenergy reduced by 270 MW the available capacity at Yallourn unit one. All of this capacity was priced below zero. The rebid reason given was “Plant conditions::capacity limit”.

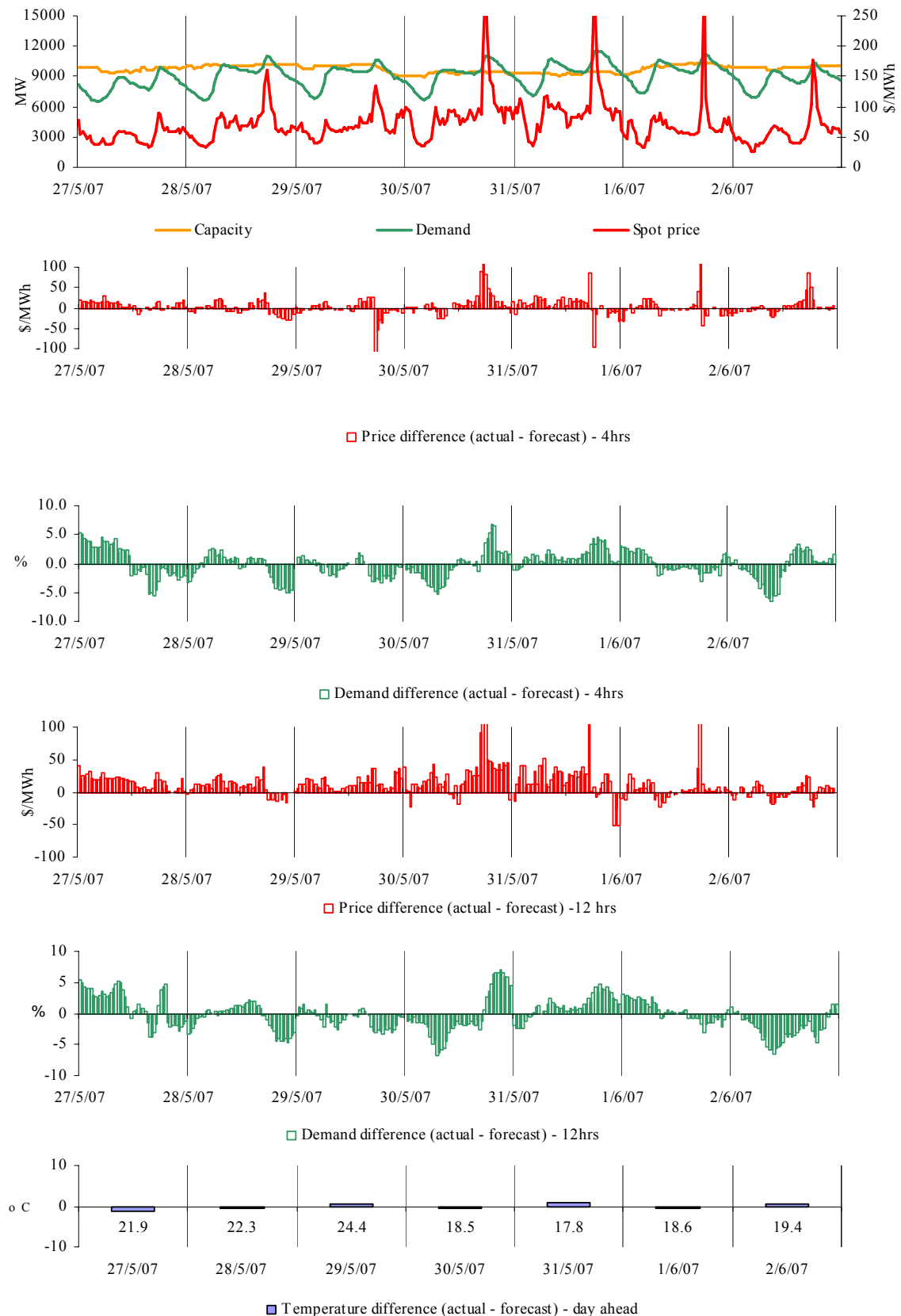
There was no other significant rebidding.

Figures 27-32: Queensland actual spot price, demand and forecast differences



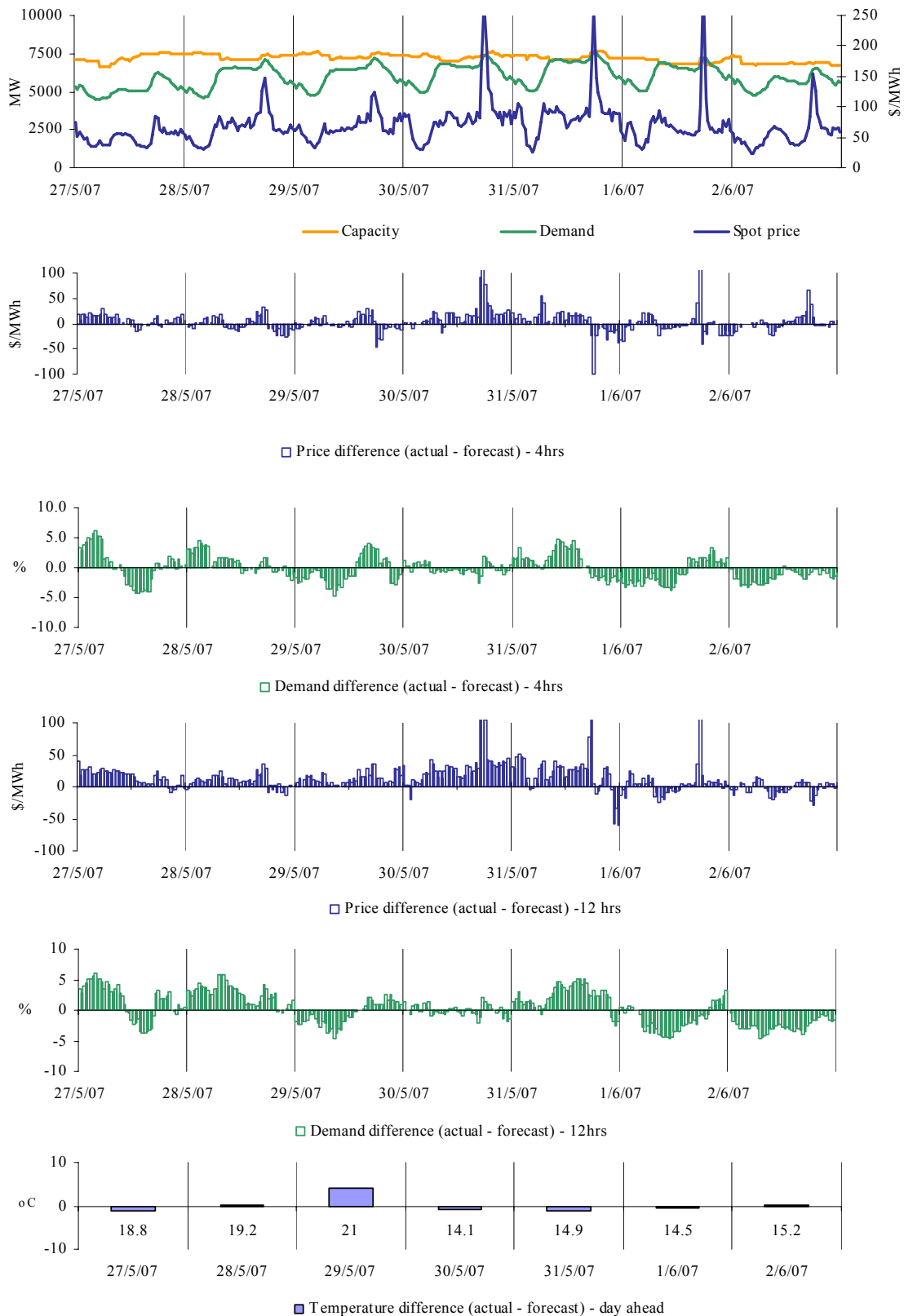
There were three occasions where the spot price in Queensland was greater than three times the Queensland weekly average price of \$76/MWh. These occurred when prices were generally aligned across all regions and is detailed in the national market outcomes section.

Figures 33-38 New South Wales actual spot price, demand and forecast differences



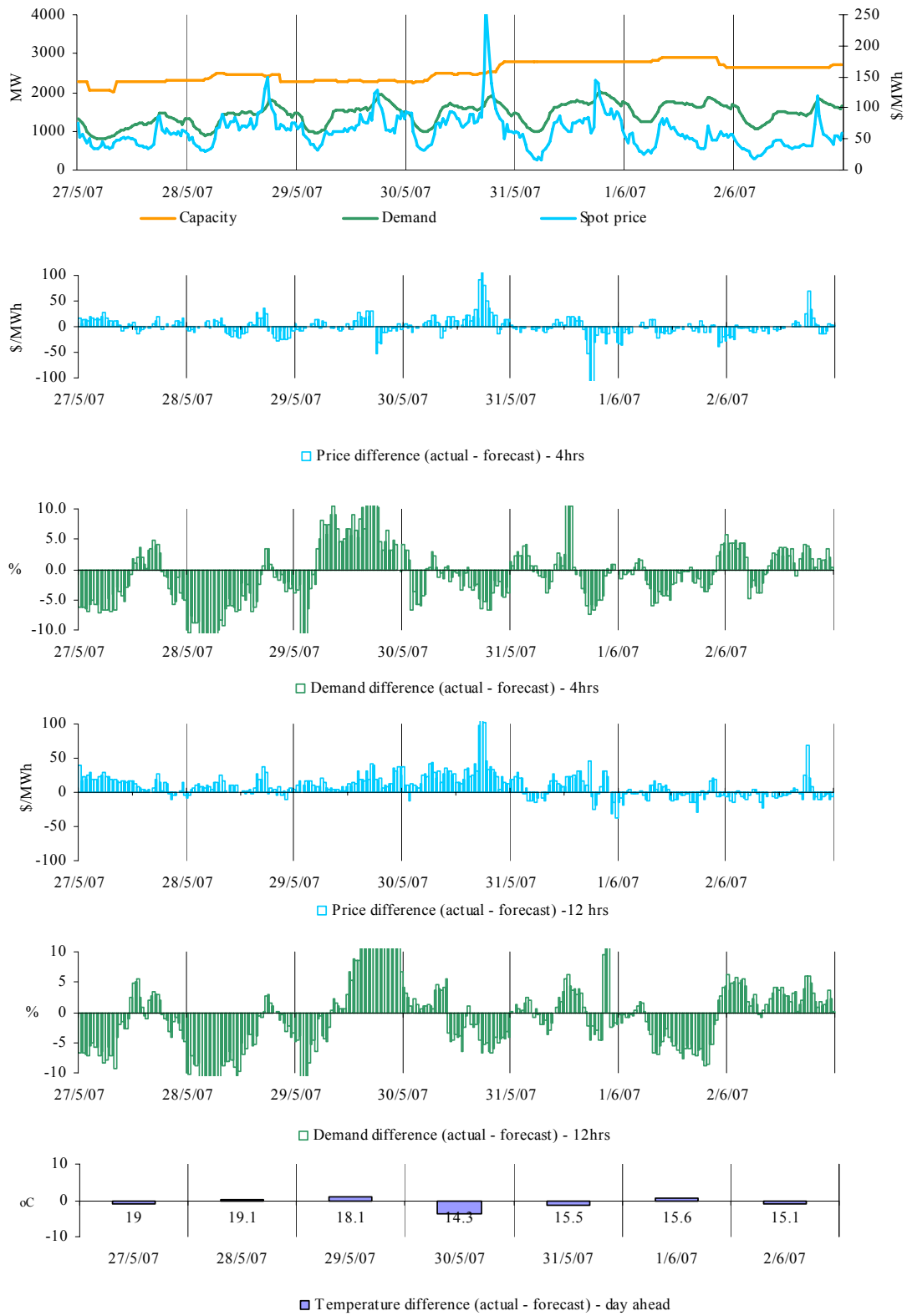
There were three occasions where the spot price in New South Wales was greater than three times the New South Wales weekly average price of \$75/MWh. These occurred when prices were generally aligned across all regions and is detailed in the national market outcomes section.

Figures 39-44: Victoria actual spot price, demand and forecast differences



There were three occasions where the spot price in Victoria was greater than three times the Victoria weekly average price of \$71/MWh. These occurred when prices were generally aligned across all regions and is detailed in the national market outcomes section.

Figures 45-50: South Australia actual spot price, demand and forecast differences



There were two occasions where the spot price in South Australia was greater than three times the South Australia weekly average price of \$65/MWh. Both of these occurred when prices were generally aligned across all regions. One price is detailed in the national market outcomes section, when the New South Wales price was above three times the weekly average. The remaining occasion is presented below, where only the South Australian price was above three times the weekly average in South Australia.

Wednesday, 30 May

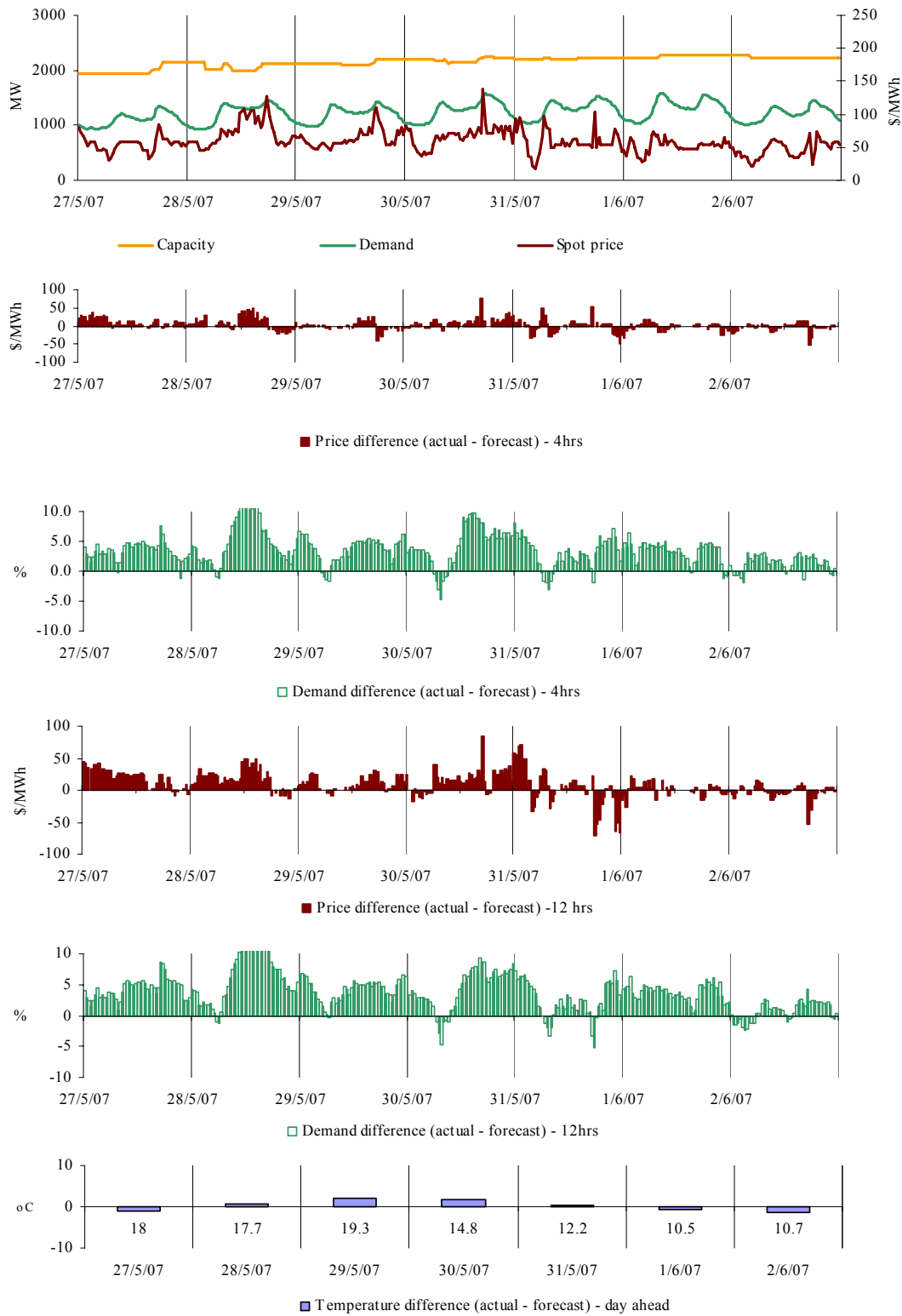
6:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	198.1	117.44	95
Demand (MW)	1887	1989	1985
Available capacity (MW)	2518	2794	2785

Prices at the time were aligned with the mainland. Demand in South Australia was around 100 MW lower than forecast four hours ahead, with demand in the rest of the market around 200 MW higher than forecast.

From midday, over several rebids, Flinders Power delayed the return to service of Northern unit two after a three day outage. This saw a reduction of 264 MW in available capacity, all priced below \$15/MWh.

There was no other significant rebidding.

Figures 51-56: Tasmania actual spot price, demand and forecast differences



There was no occasion in Tasmania where the spot price was greater than three times the weekly average price of \$60/MWh.

Figures 57 – 61 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.

Figure 57: Queensland closing bid prices, dispatched generation and spot price

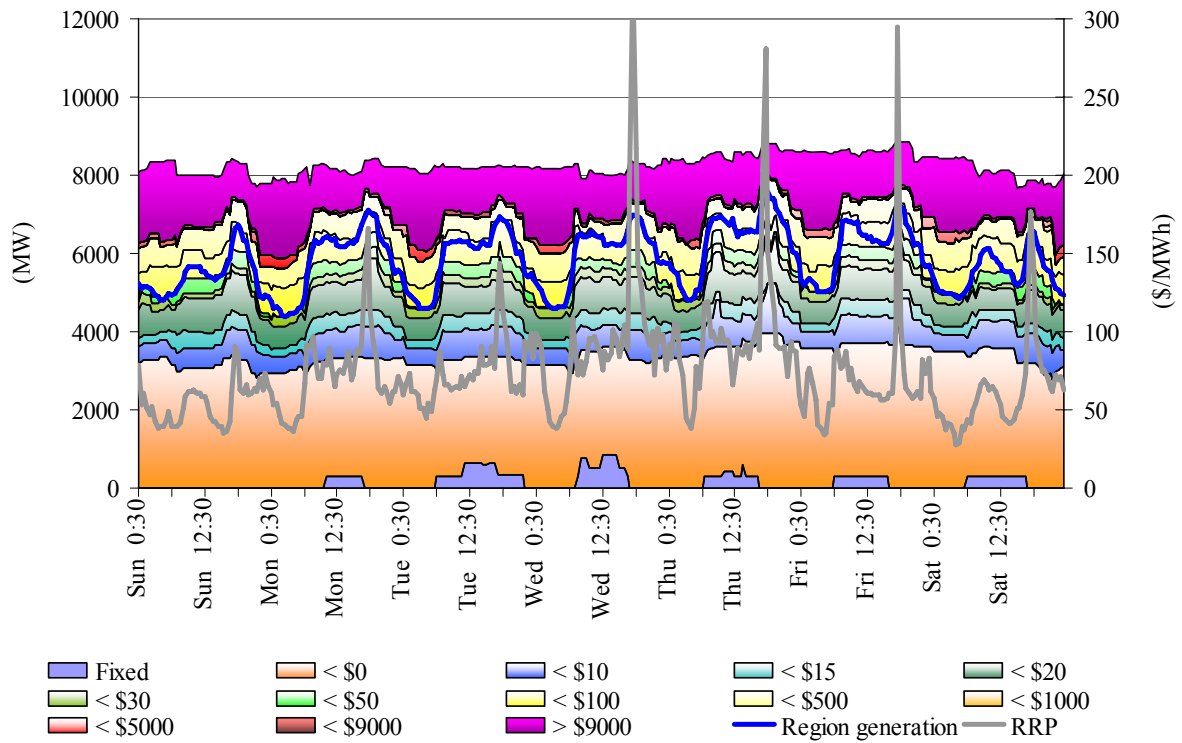


Figure 58: New South Wales closing bid prices, dispatched generation and spot price

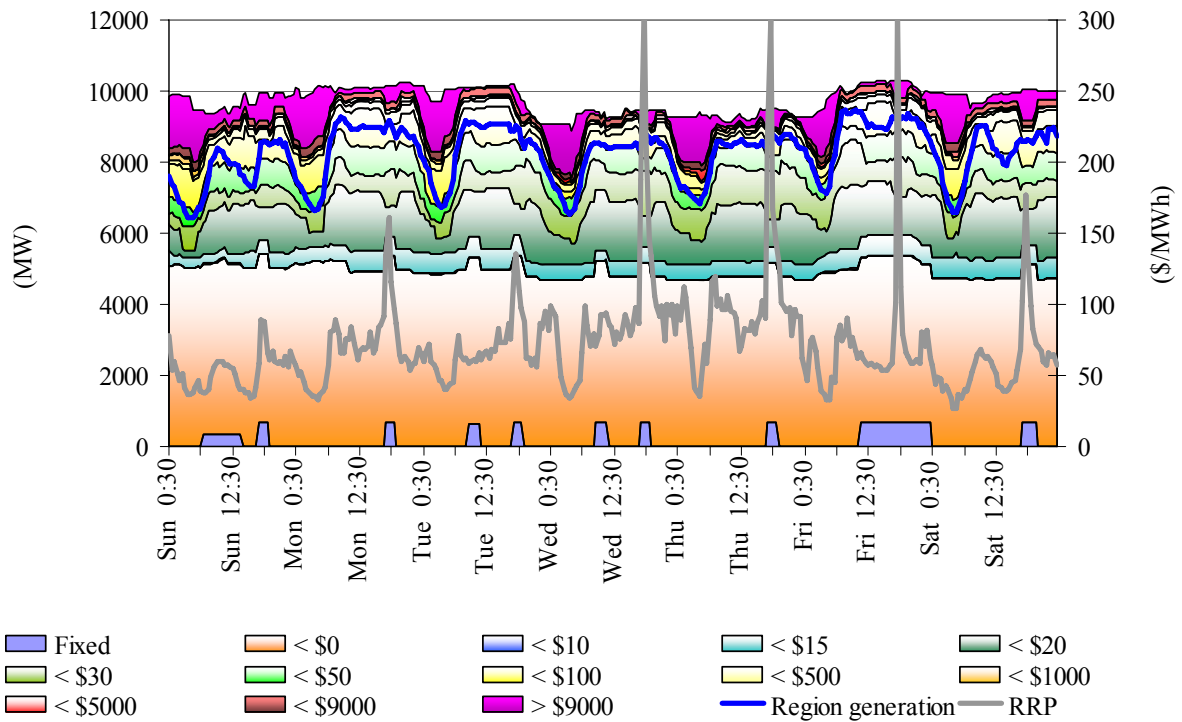


Figure 59: Victoria closing bid prices, dispatched generation and spot price

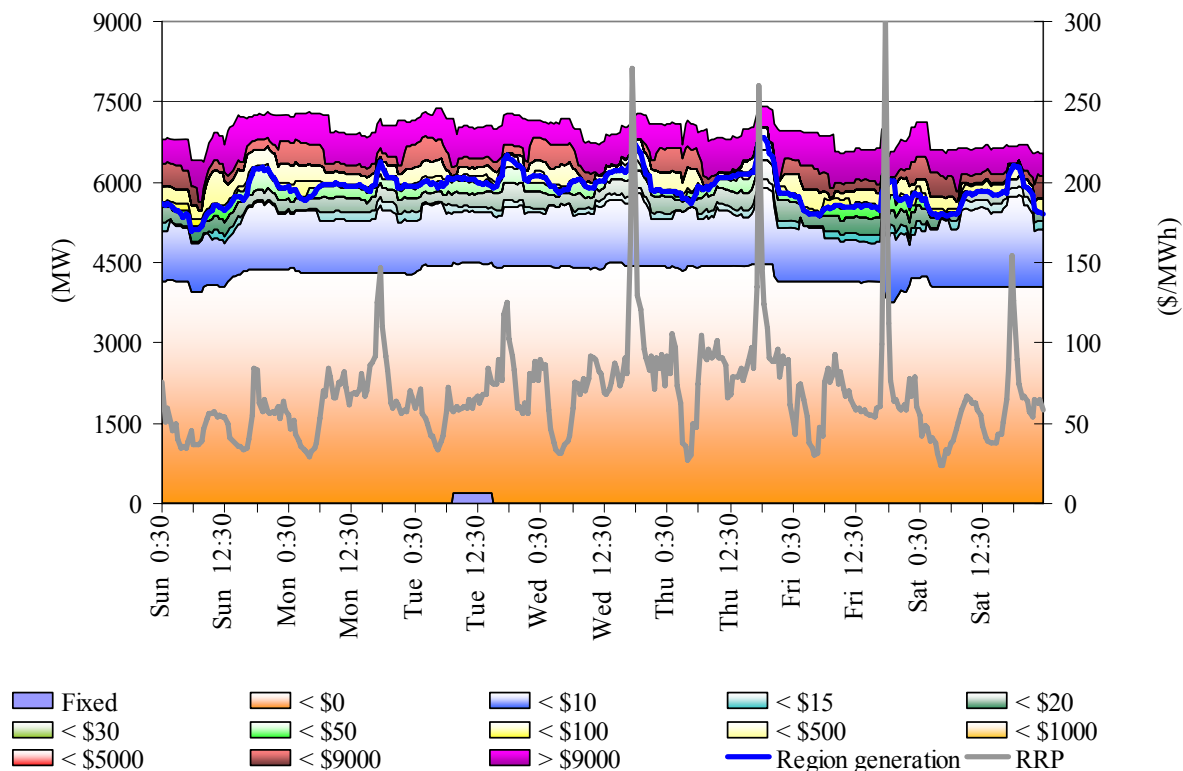


Figure 60: South Australia closing bid prices, dispatched generation and spot price

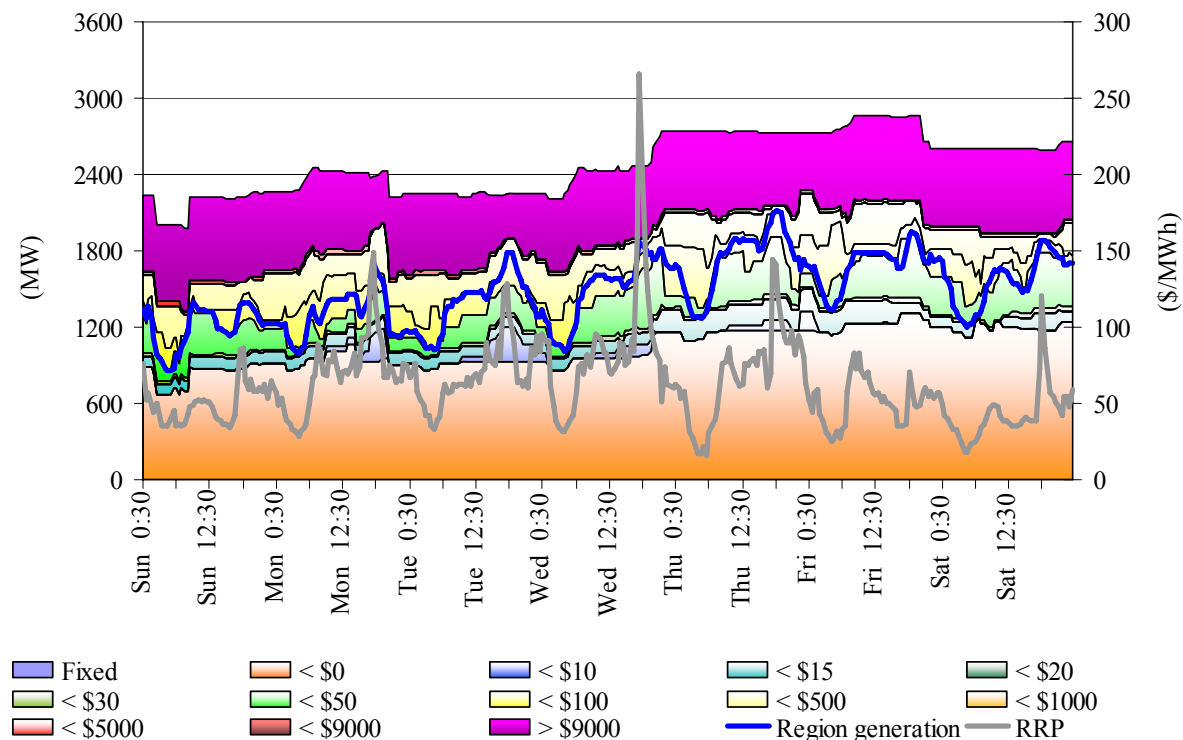
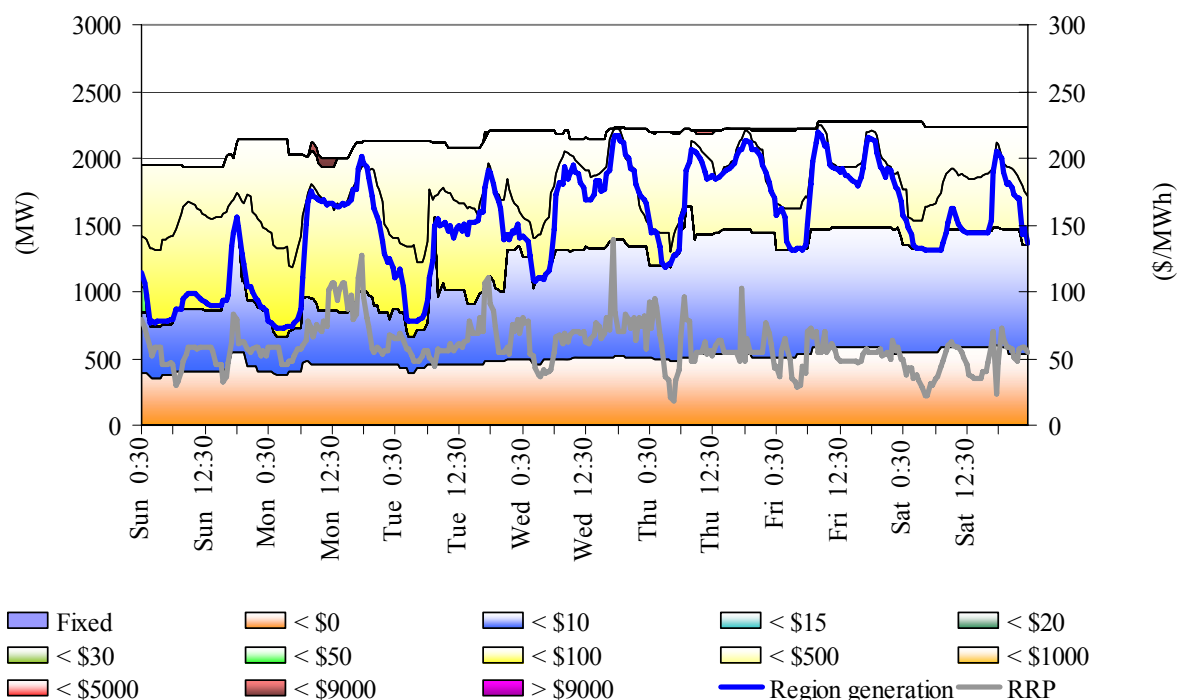


Figure 61: Tasmania closing bid prices, dispatched generation and spot price



Ancillary service market

The total cost of ancillary services on the mainland for the week was \$346 000 or 0.1 per cent of turnover in the energy market. Figure 62 summarises the volume weighted average prices and costs for the eight frequency control ancillary services across the mainland.

Figure 62: frequency control ancillary service prices and costs for the mainland

	Raise 6 sec	Raise 60 sec	Raise 5 min	Raise Reg	Lower 6 sec	Lower 60 sec	Lower 5 min	Lower reg
Last week (\$/MW)	1.33	0.74	1.88	4.79	0.11	0.06	0.42	1.68
Previous week (\$/MW)	1.14	0.36	1.35	5.02	0.03	0.06	0.09	1.24
Last quarter (\$/MW)	1.76	0.73	1.15	1.54	0.39	2.28	5.00	1.93
Market Cost (\$1000s)	\$60	\$31	\$117	\$108	\$0	\$0	\$3	\$26
% of energy market	0.02%	0.01%	0.04%	0.04%	0.01%	0.01%	0.01%	0.01%

The total cost of ancillary services in Tasmania for the week was \$374 000 or 3 per cent of the turnover in the energy market in Tasmania. The cost for lower 5 minute services increased this week three fold, accounting for more than half of the cost for all services. Reductions at times in the capability of supply for this service led to a number of price spikes over the week. Figure 63 summarises for Tasmania the prices and costs for the eight frequency control ancillary services.

Figure 63: 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 (\$/MW)	11.42	1.79	1.88	3.93	0.00	3.64	7.75	1.83
Previous week (\$/MW)	6.49	1.95	2.06	4.21	0.00	1.34	1.94	1.36
Last quarter (\$/MW)	4.97	0.49	2.93	3.00	12.67	0.43	0.82	0.45
Market Cost (\$1000s)	\$15	\$8	\$10	\$13	\$0	\$112	\$207	\$9
% of energy market	0.12%	0.06%	0.08%	0.11%	0.01%	0.90%	1.66%	0.07%

Figure 64 shows the daily breakdown of cost for each frequency control ancillary service.

Figure 64: daily frequency control ancillary service cost

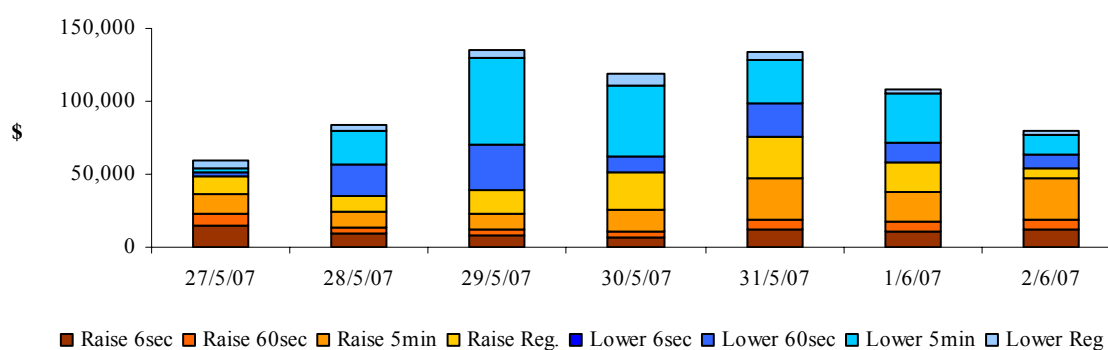
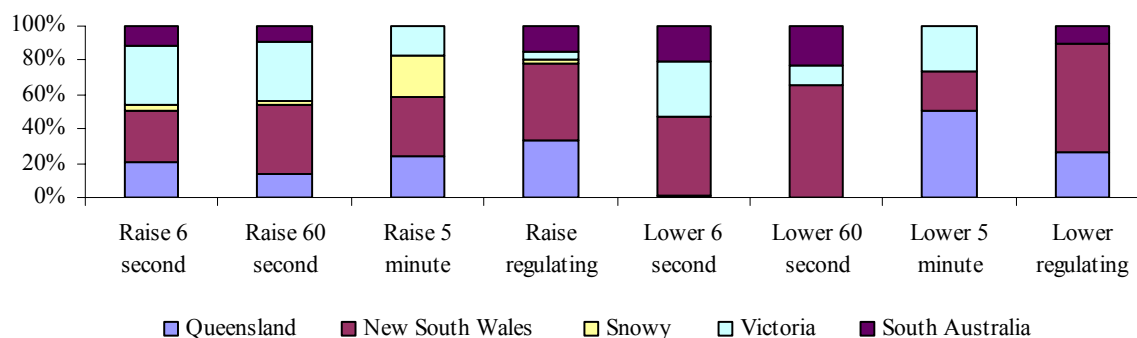


Figure 65 shows the contribution, on a percentage basis, that frequency control ancillary service providers are utilised (in each mainland region) to satisfy the total requirement for each service.

Figure 65: regional participation in ancillary services on the mainland



Figures 66 and 67 show 30-minute prices for each frequency control ancillary service throughout the week.

Figure 66: prices for raise services

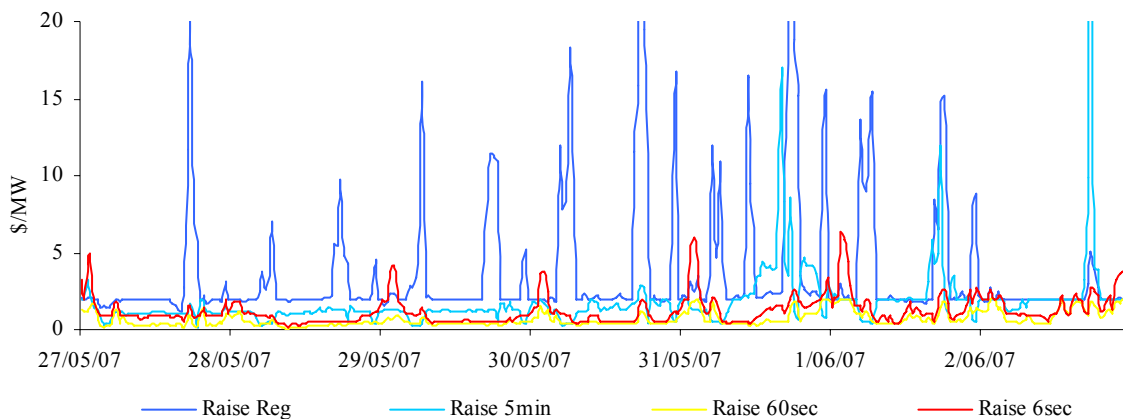


Figure 66A: prices for raise services – Tasmania

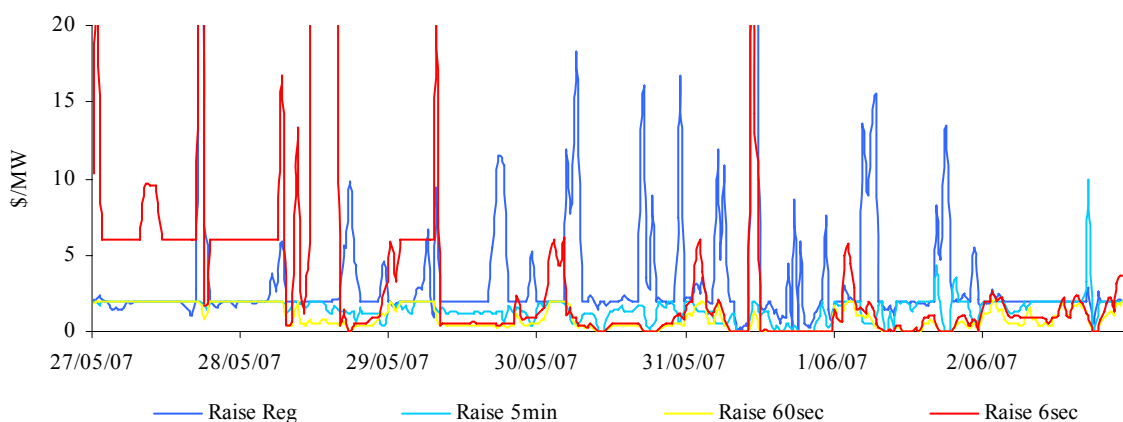


Figure 67: prices for lower services

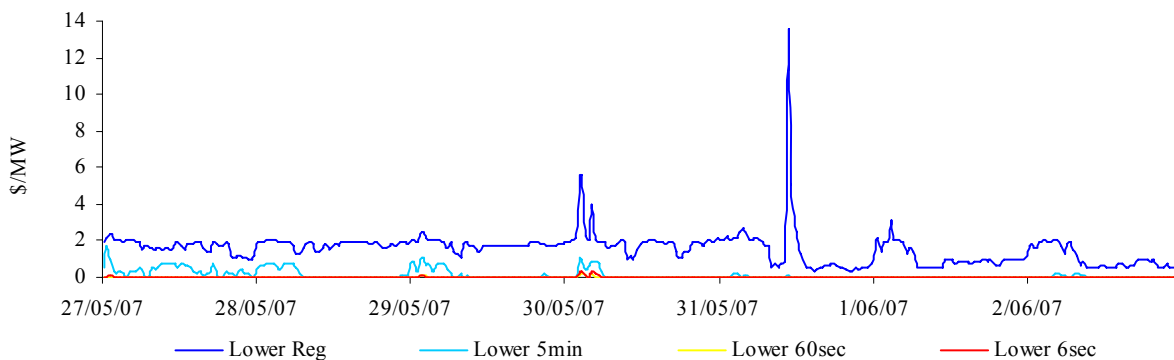
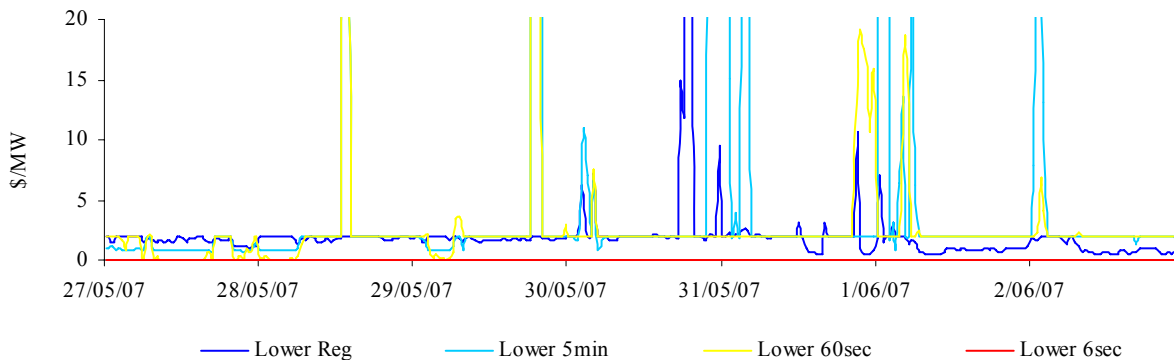


Figure 67A: prices for lower services – Tasmania



Figures 68 and 69 present for both raise and lower frequency control services the requirement, established by NEMMCO, for each service to satisfy the frequency standard.

Figure 68: raise requirements

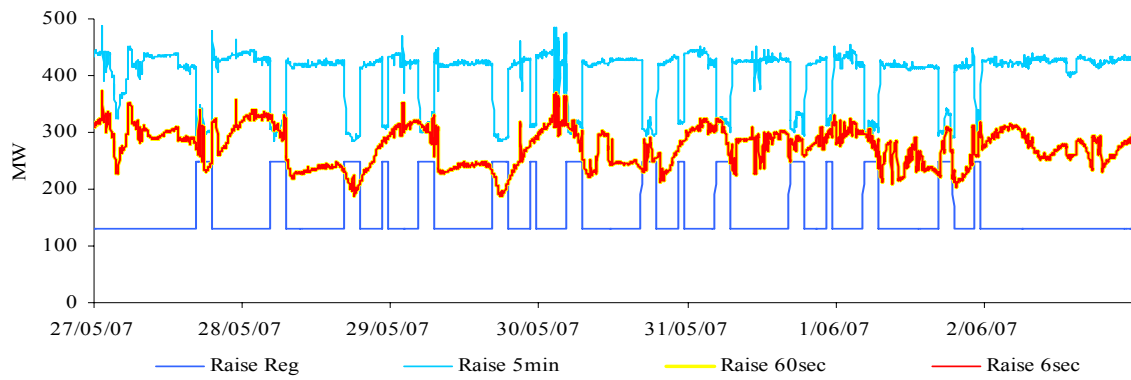


Figure 68A: raise requirements – Tasmania

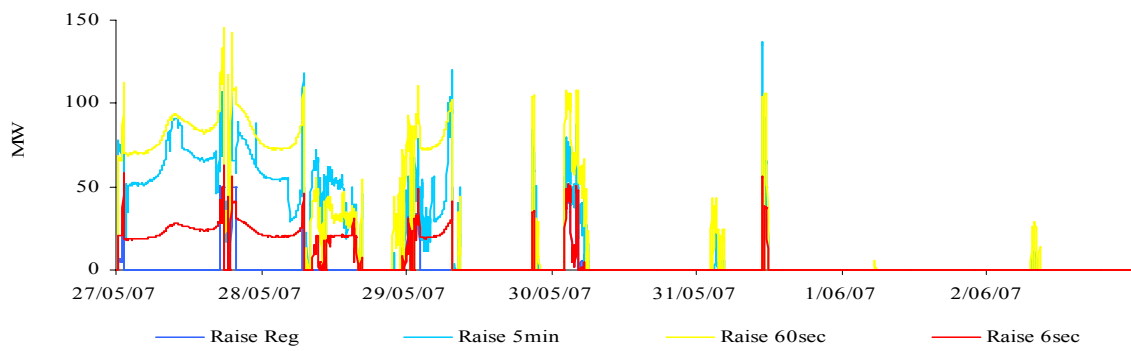


Figure 69: lower requirements

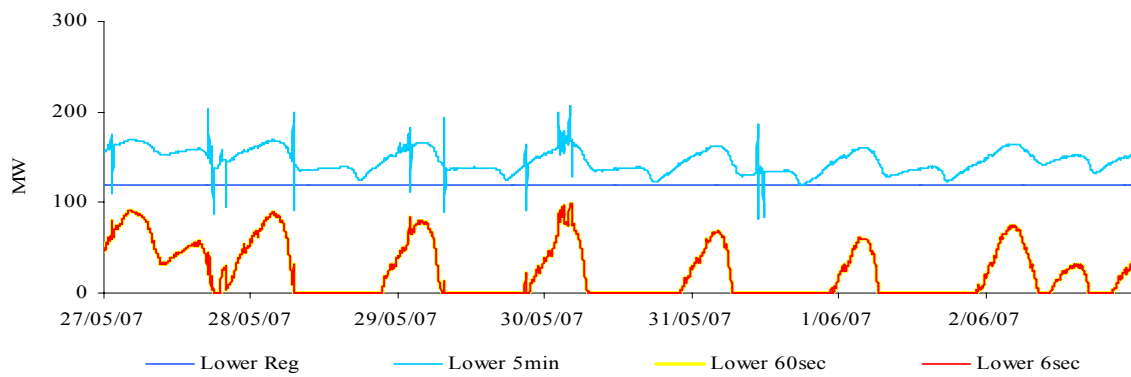


Figure 69A: lower requirements – Tasmania

