

18 JUNE – 24 JUNE 2006

Mainland spot prices for the week averaged between \$28/MWh in Queensland and \$44/MWh in South Australia. These prices were generally consistent with the previous week. The average spot price in Tasmania increased by a third to \$50/MWh. A single half hour price of \$3226/MWh at midday on Tuesday contributed.

Turnover in the energy market was \$147 million. The total cost of ancillary services for the week, including Tasmania, was \$374 000, or 0.25 per cent of energy market turnover.

Significant variations between actual prices and those forecast 4 and 12 hours ahead occurred in 68, or a fifth of all trading intervals. Demand forecasts produced 4 and 12 hours ahead varied from actual by more than 5 per cent in almost a fifth of all trading intervals across the market. These variations were most frequent in Tasmania, occurring in a third 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

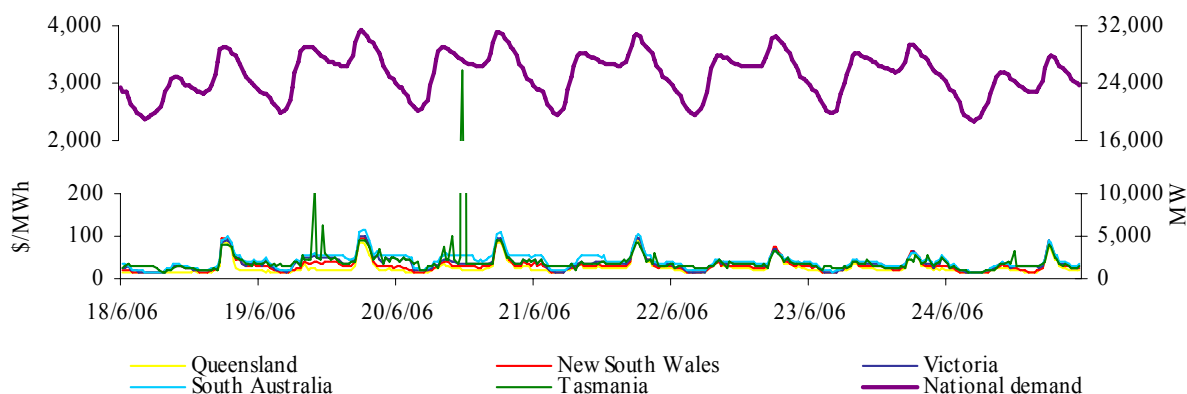


Figure 2: volume weighted average spot price for energy market (\$/MWh)

	QLD	NSW	VIC	SA	TAS
Last week	28	33	38	44	50
Previous week	23	36	38	44	38
Same quarter last year	23	28	27	36	-
Financial year to date	31	43	36	44	60
% change from previous week*	▲18%	▼7%	▼1%	▼1%	▲32%
% change from same quarter last year**	▲20%	▲18%	▲39%	▲23%	-
% change from year to date***	▲3%	▼6%	▲25%	▲12%	-

*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

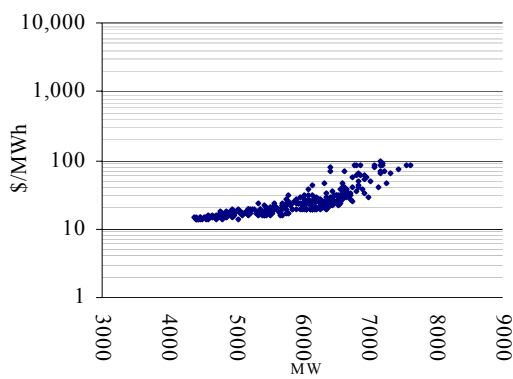


Figure 4: New South Wales

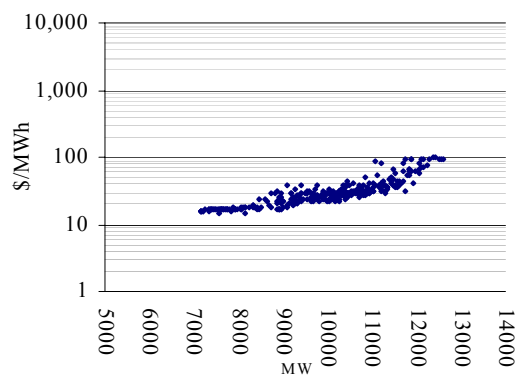


Figure 5: Victoria

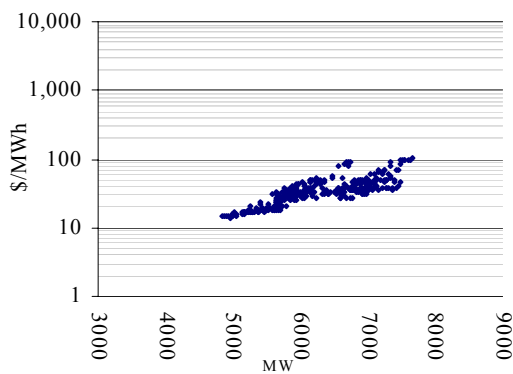


Figure 6: South Australia

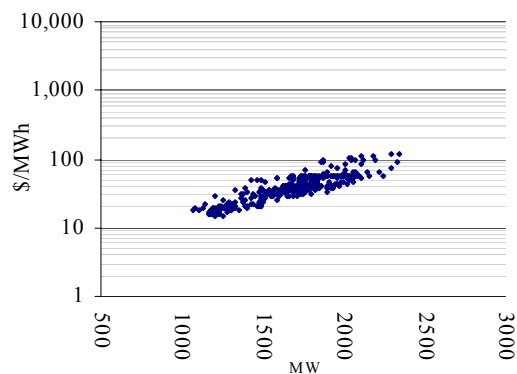
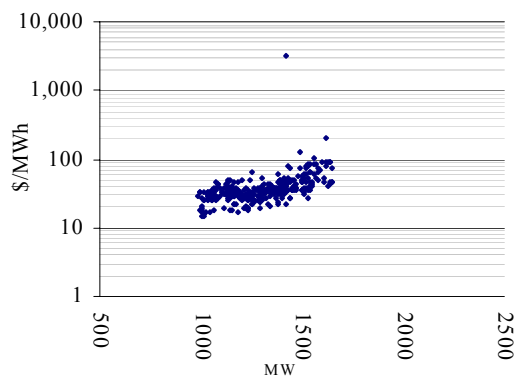


Figure 7: Tasmania



Maximum spot prices for the week were \$95/MWh in Queensland, \$99/MWh in New South Wales, \$100/MWh in Victoria and \$116/MWh in South Australia, all occurring during the evening peak demand period. The spot price reached \$3226/MWh in Tasmania at midday on Tuesday.

Figure 8: volatility index during peak periods

	QLD	NSW	VIC	SA	TAS
Last week	1.14	0.95	0.68	0.56	0.82
Previous week	1.65	1.09	0.87	0.75	0.88
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>

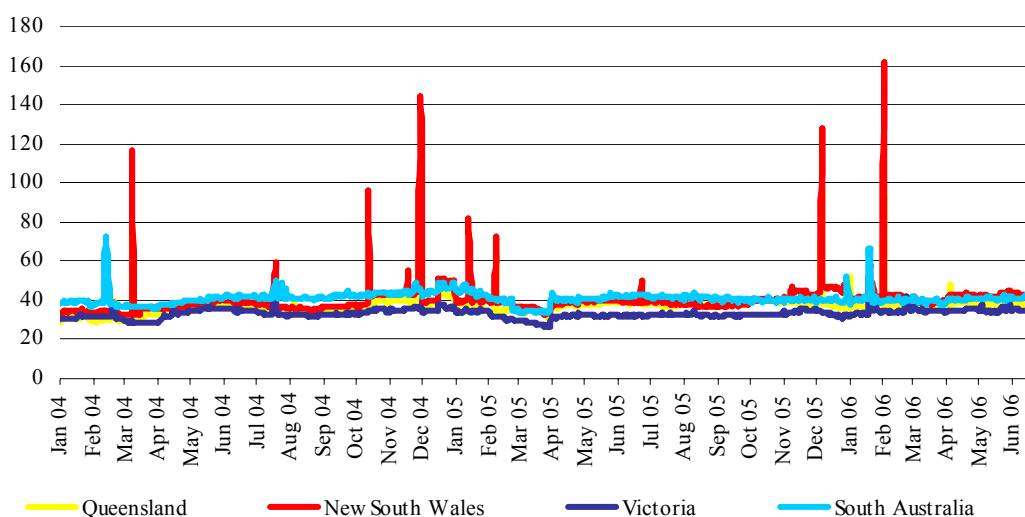
Figure 9 sets out the d-cyphaTrade wholesale electricity price index (WEPI)* for each region throughout the week excluding Tasmania. Figure 10 sets out the WEPI since 1 January 2004.

Figure 9: d-cyphaTrade WEPI for the week

	Monday	Tuesday	Wednesday	Thursday	Friday
Queensland	37.18	37.77	37.19	37.33	37.03
New South Wales	42.34	42.36	42.43	42.24	42.19
Victoria	35.53	36.22	35.65	35.69	36.04
South Australia	42.44	41.55	41.19	41.90	42.11

* 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

Figure 10: d-cyphaTrade WEPI



Reserve

There were no low reserve conditions forecast.

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

Figure 11: Queensland

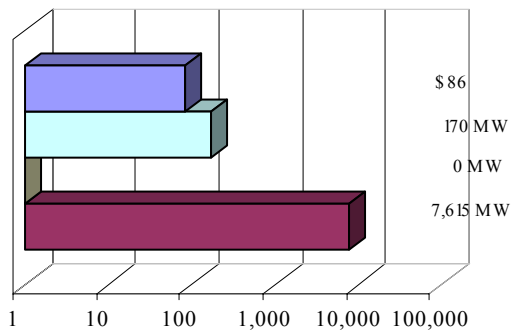


Figure 12: New South Wales

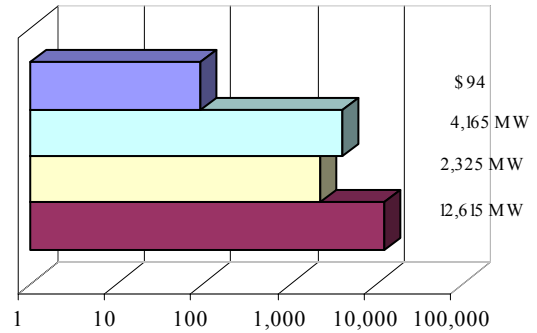


Figure 13: Victoria

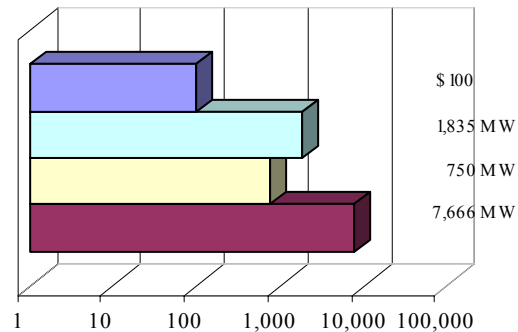


Figure 14: South Australia

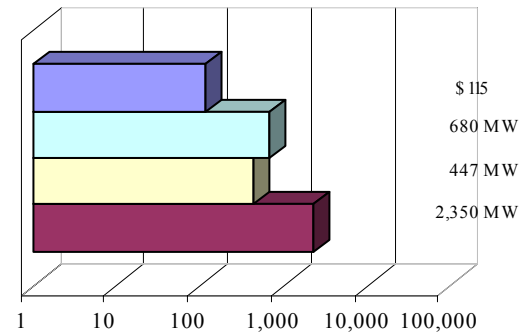
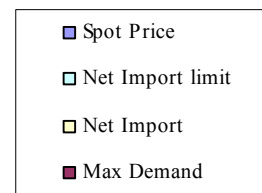
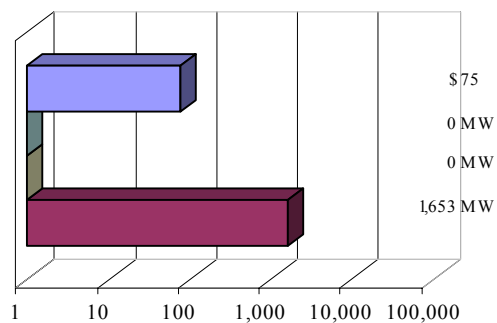


Figure 15: Tasmania



Price variations

There were 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 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

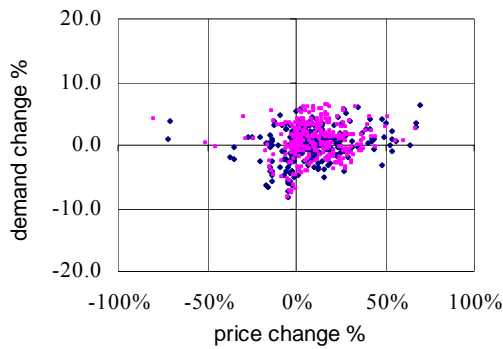


Figure 17: New South Wales



Figure 18: Victoria

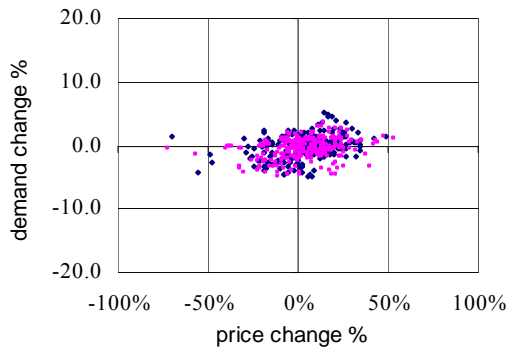


Figure 19: South Australia

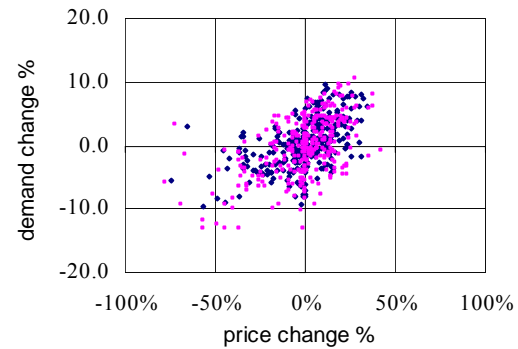


Figure 20: Tasmania

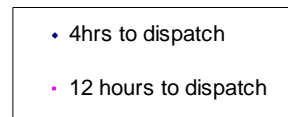
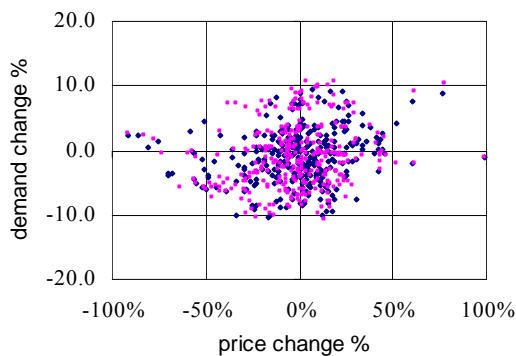
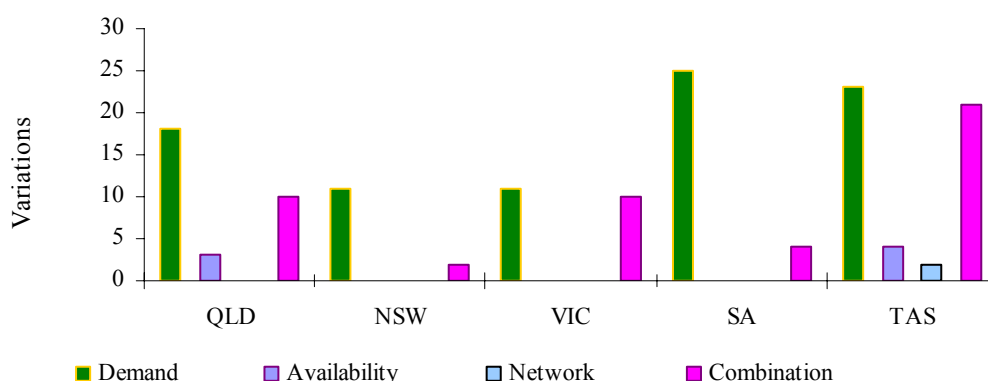


Figure 21 summarises the number and most probable reason for variations between forecast and actual prices.

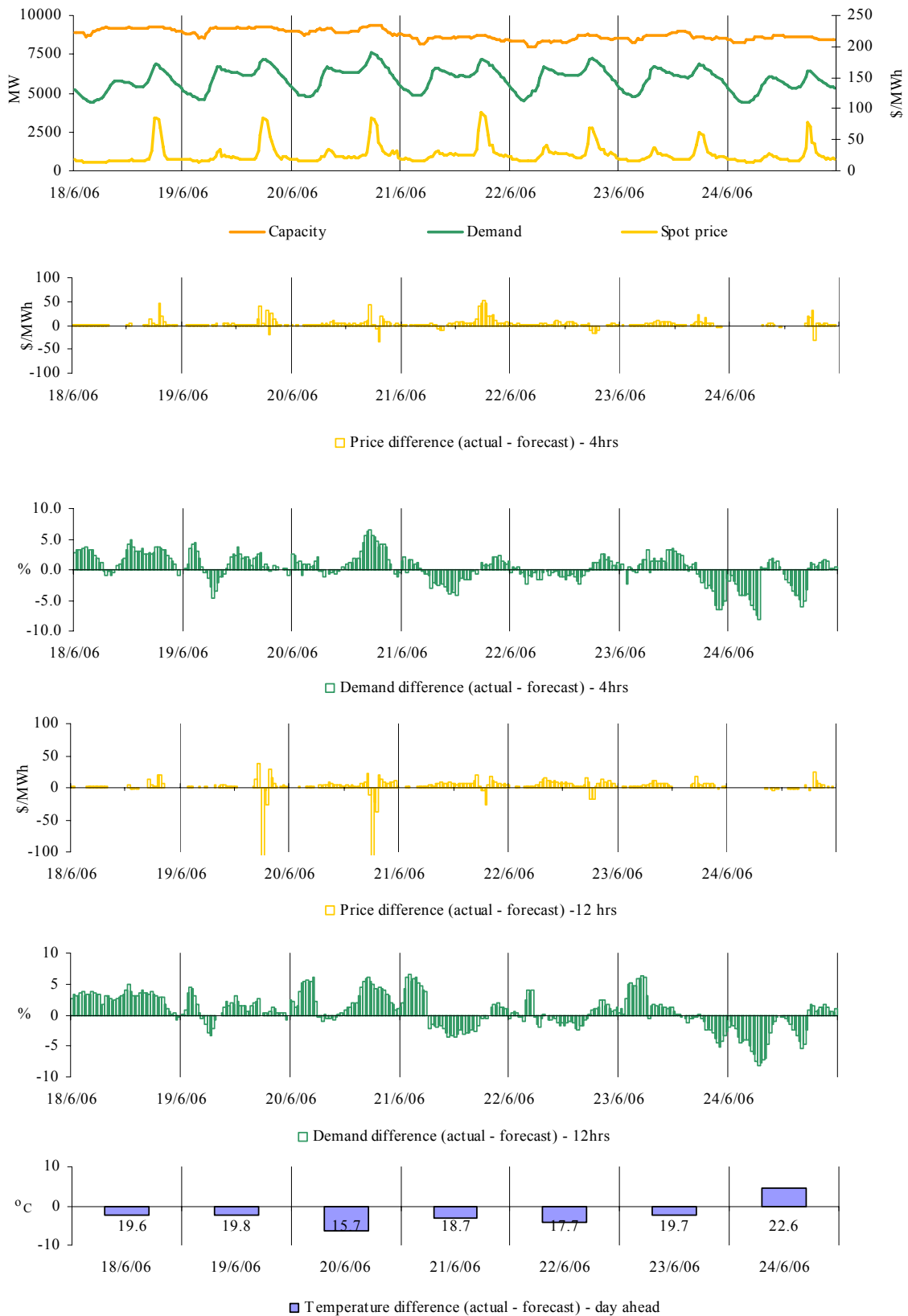
Figure 21: reasons for variations between forecast and actual prices



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 were 10 occasions where the spot price in Queensland was greater than three times the weekly average price of \$28/MWh.

Sunday, 18 June

6:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	84.15	80.05	80.02
Demand (MW)	6785	6598	6530
Available capacity (MW)	9307	9307	9270
6:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	83.99	81.66	82.55
Demand (MW)	6862	6599	6629
Available capacity (MW)	9309	9309	9272
7:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	82.89	80.85	81.19
Demand (MW)	6797	6548	6583
Available capacity (MW)	9310	9265	9273

Conditions at the time saw demand in Queensland 260 MW higher than forecast four hours ahead. Prices were close to forecast and aligned across the market.

There was no significant rebidding.

Monday, 19 June

6:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	84.87	79.57	84.95
Demand (MW)	7168	7137	7176
Available capacity (MW)	9297	9300	9308
6:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	82.97	83.55	200.92
Demand (MW)	7192	7119	7165
Available capacity (MW)	9299	9302	9310

Conditions at the time saw demand in Queensland and across the market close to forecast. Prices in Queensland were close to forecasts four hours ahead and were aligned across the market.

There was no significant rebidding.

Tuesday, 20 June

6:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	85.75	83.34	97.26
Demand (MW)	7615	7181	7209
Available capacity (MW)	9382	9392	9303
6:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	83.58	83.55	200.92
Demand (MW)	7560	7163	7190
Available capacity (MW)	9384	9303	9305

Conditions at the time saw demand in Queensland as much as 450 MW higher than forecast four hours ahead. Nationally, demand was close to forecast on the same basis, with prices aligned across the market.

There was no significant rebidding.

Wednesday, 21 June

6:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	94.73	48.00	92.23
Demand (MW)	7176	7086	7188
Available capacity (MW)	8714	9019	8974
6:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	92.35	40.19	97.23
Demand (MW)	7190	7135	7234
Available capacity (MW)	8700	9021	8976
7:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	86.17	40.07	89.67
Demand (MW)	7093	7033	7122
Available capacity (MW)	8693	9022	9027

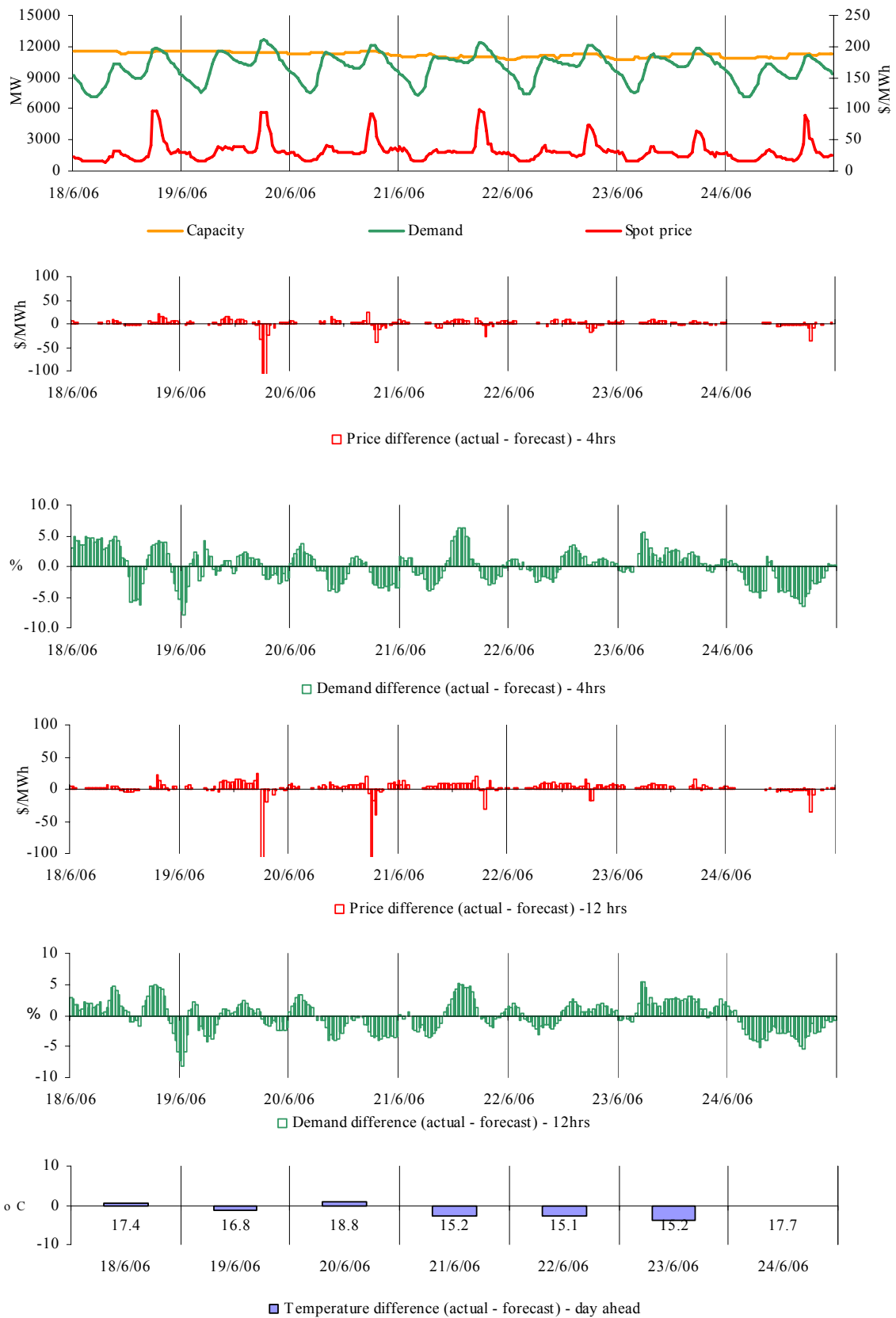
Conditions at the time saw demand close to forecast four hours ahead. Available capacity was up to 330 MW lower than forecast four hours ahead, with actual prices aligned across the market.

At 12.35 pm, Tarong Energy shifted 250 MW of capacity at Wivenhoe from prices above \$9000/MWh to prices of \$40/MWh and \$80/MWh. The rebid reason given was “Latest PRD::Optimise portfolio”. Following this rebid, forecast prices for the evening peak in Queensland dropped to around \$40/MWh. At 4.12 pm, Tarong reversed this rebid, with a further rebid at 5.28 pm that increased by 300 MW the available capacity at prices of \$28/MWh. The rebid reasons given were “Interconnector limit::Adjust profile” and “Match Bid::Adjust limit” respectively.

Delays in the return to service of Callide Power’s Callide C unit three, following an earlier unplanned outage, saw a 405 MW reduction in available capacity for the evening peak. All of this capacity had been priced at less than \$15/MWh. The unit eventually returned to service at 1 pm the following day.

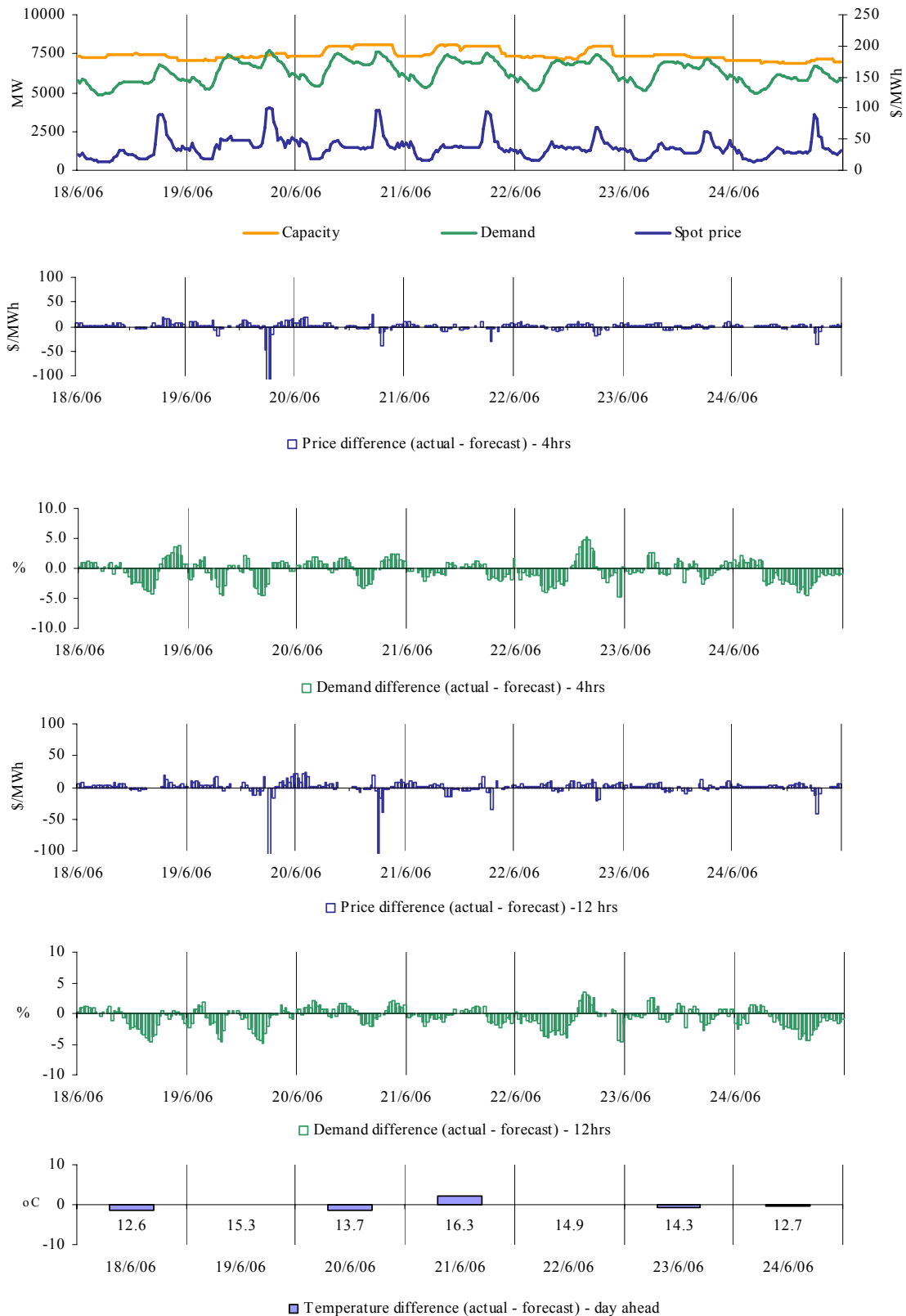
There was no other significant rebidding.

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



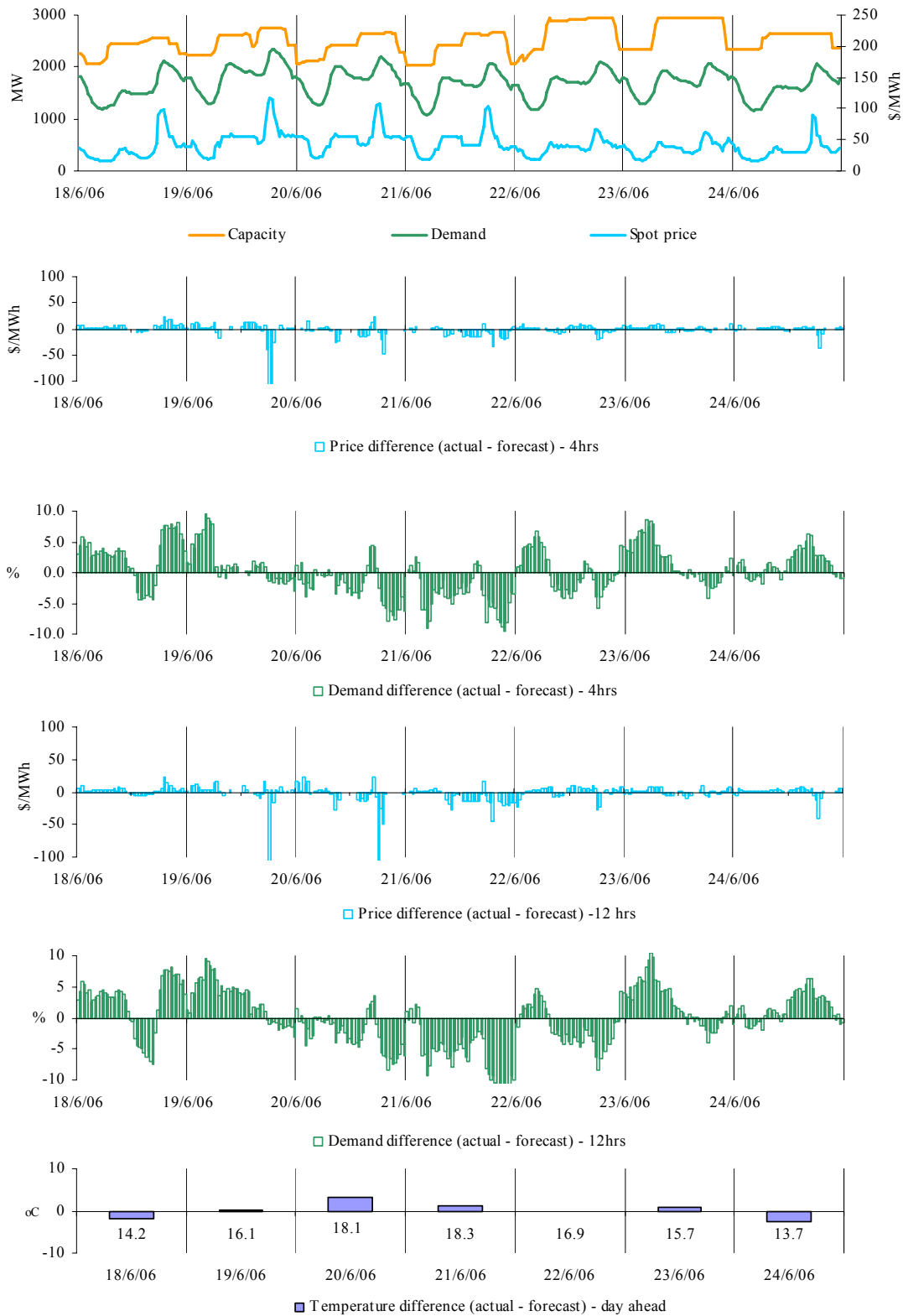
There was no occasion where the spot price in New South Wales was greater than three times the weekly average price of \$33/MWh.

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



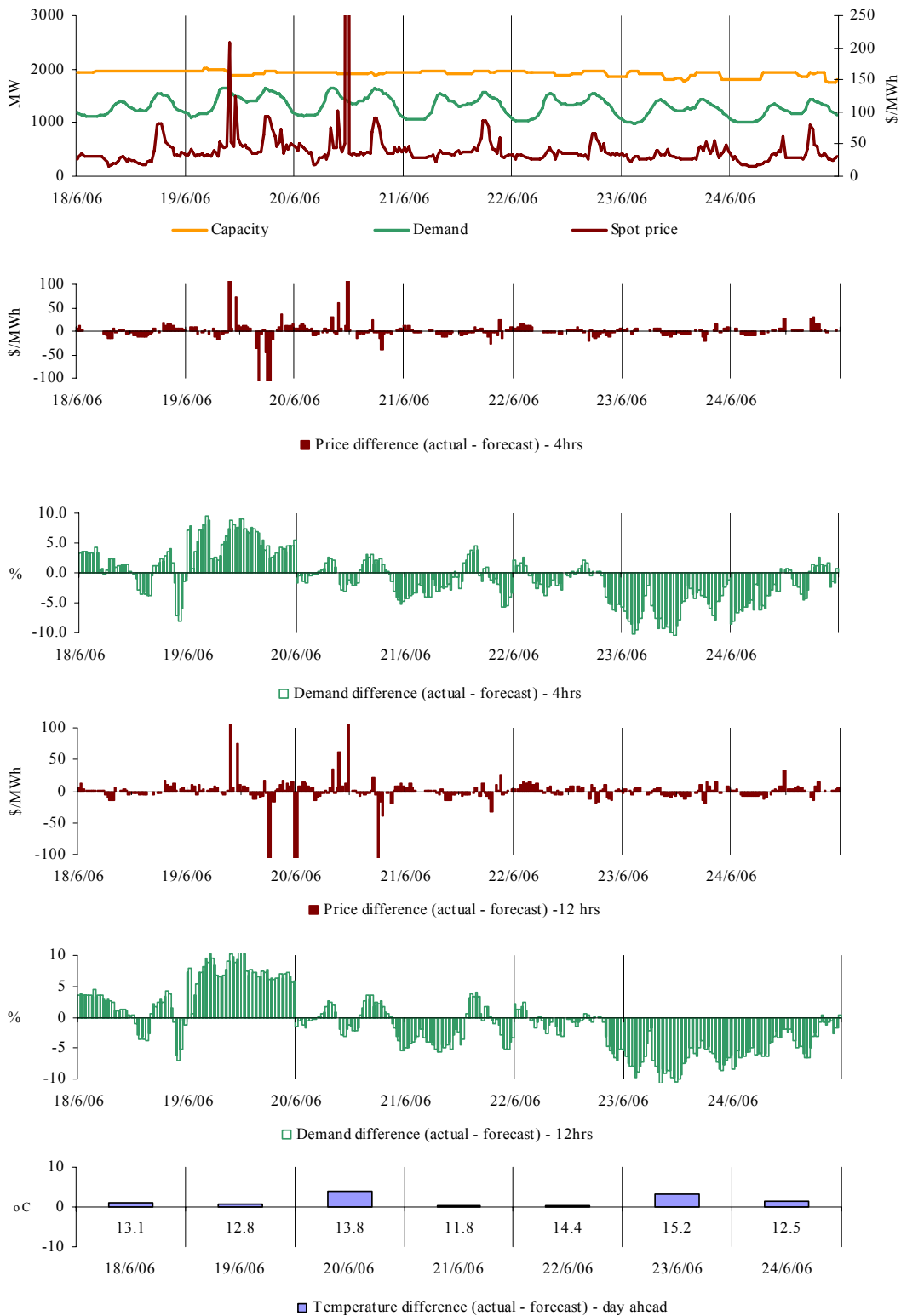
There was no occasion where the spot price in Victoria was greater than three times the weekly average price of \$38/MWh.

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 \$44/MWh.

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



There were two occasions where the spot price in Tasmania was greater than three times the weekly average price of \$50/MWh.

Monday, 19 June

10:00 am	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	209.00	48.59	46.33
Demand (MW)	1617	1475	1450
Available capacity (MW)	1889	1915	1920

Conditions at the time saw demand 140 MW higher than forecast four hours ahead.

A step change in the offer profile of Hydro Tasmania at 9.35 am saw a 180 MW reduction in the amount of capacity offered at prices of less than \$40/MWh with no capacity in the region priced between \$55/MWh and \$200/MWh.

Counter price flows were occurring on BassLink as a result of network limitations and higher priced raise regulation and 5 minute contingency frequency services in Tasmania.

There was no significant rebidding.

Tuesday, 20 June

12:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	3225.77	34.49	35.75
Demand (MW)	1417	1434	1433
Available capacity (MW)	1907	1907	1915

Conditions at the time saw demand and available capacity close to that forecast.

A slight increase in the requirement for locally sourced raise regulation and 6 second contingency services in Tasmania at 11.35 am and 11.40 am, in conjunction with Basslink approaching the no-go zone of 50 MW, led to five-minute \$10 000/MW prices in both services. Co-optimisation of these services with energy saw high prices reflected into the energy market.

There was no significant rebidding.

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

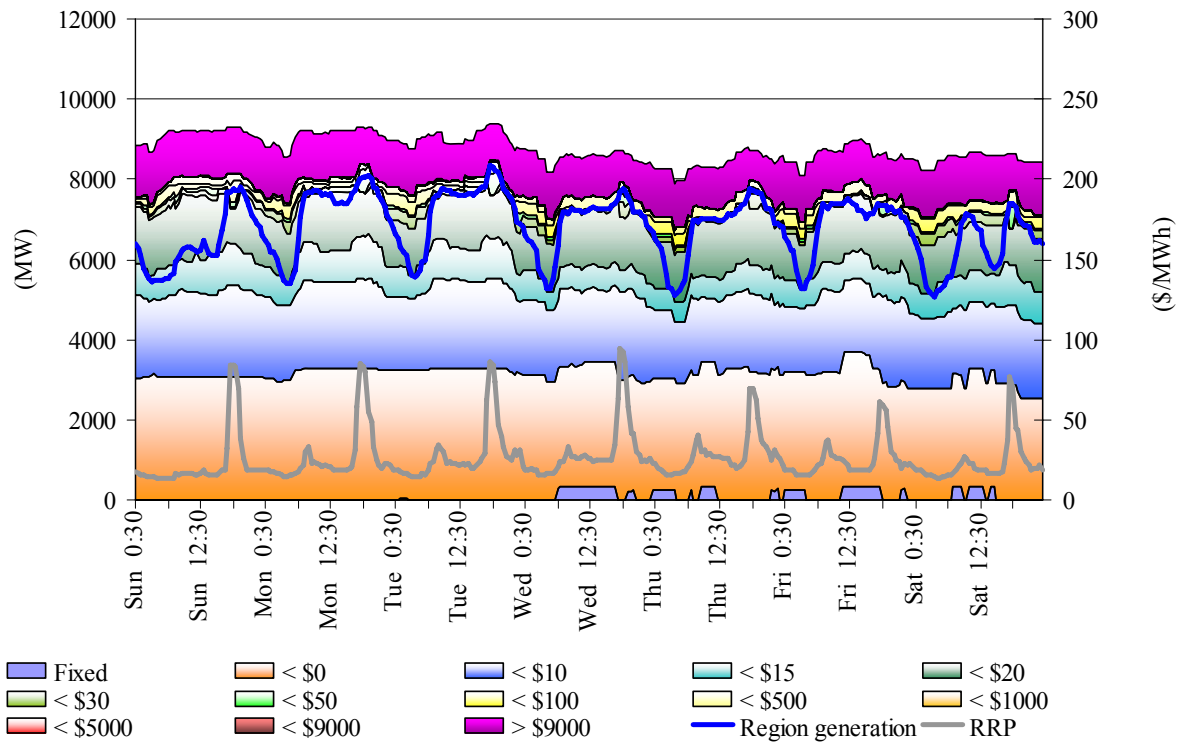


Figure 53: New South Wales closing bid prices, dispatched generation and spot price

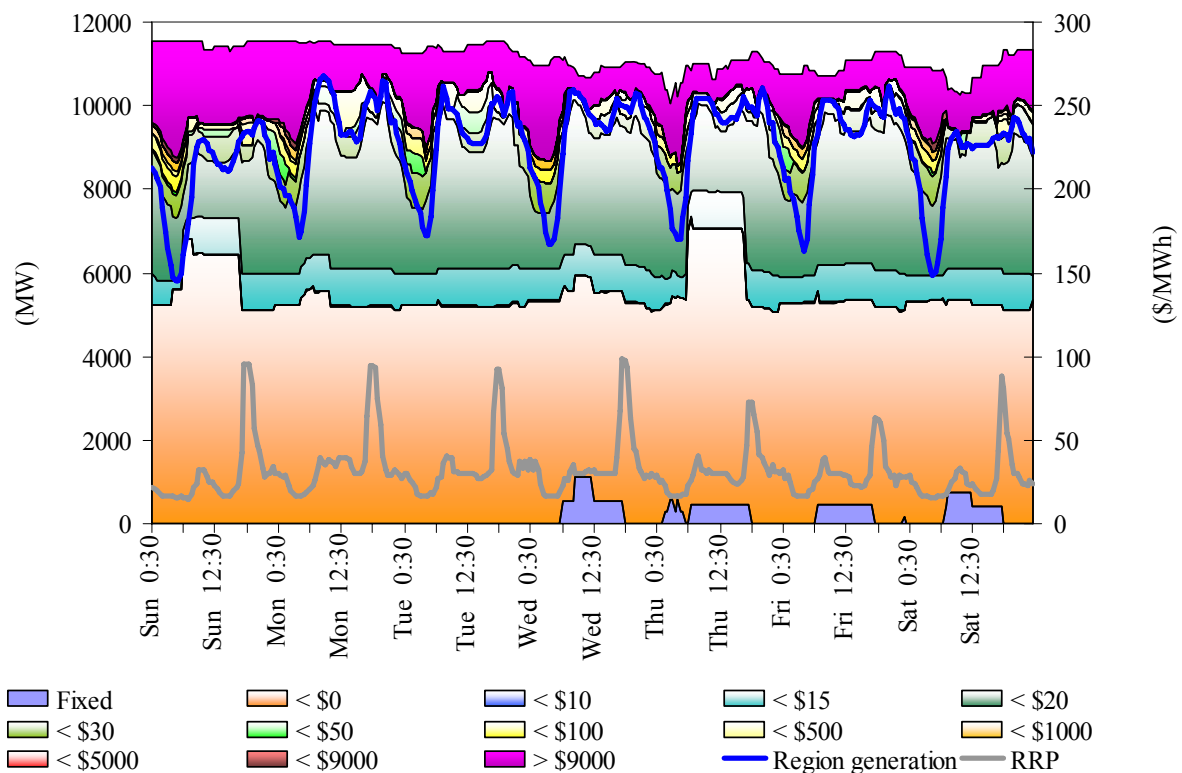


Figure 54: Victoria closing bid prices, dispatched generation and spot price

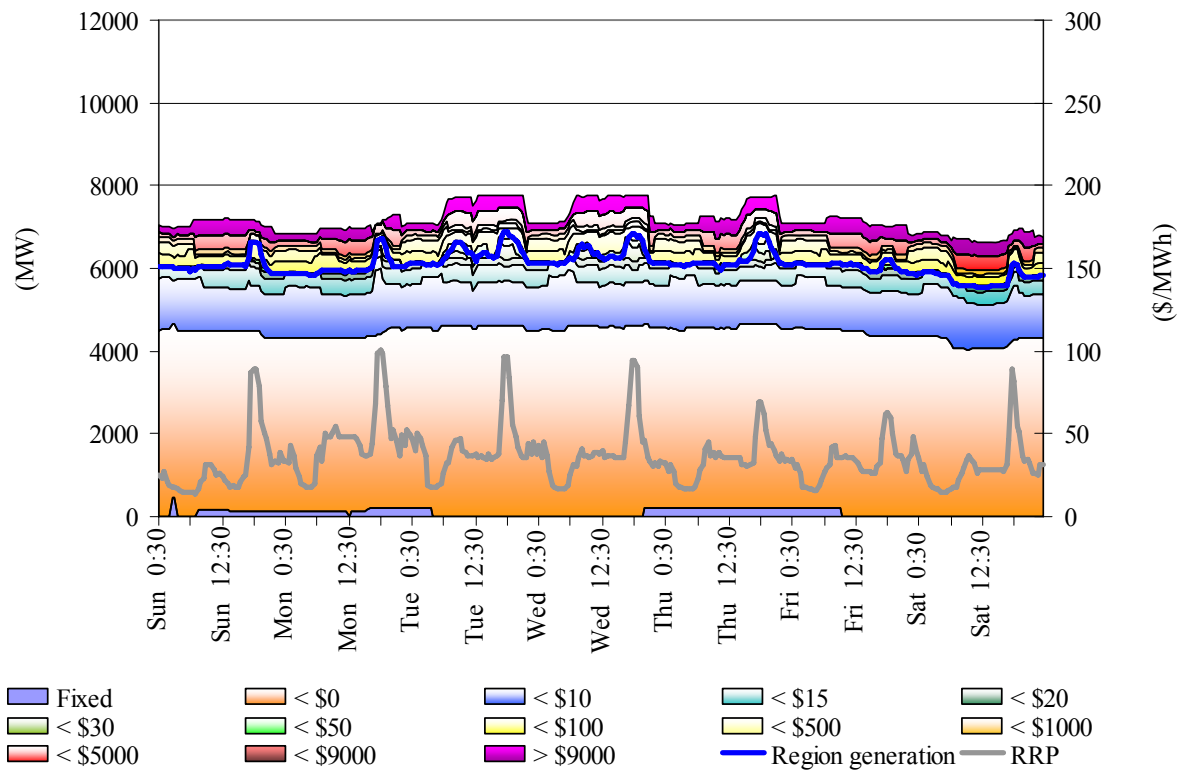


Figure 55: South Australia closing bid prices, dispatched generation and spot price

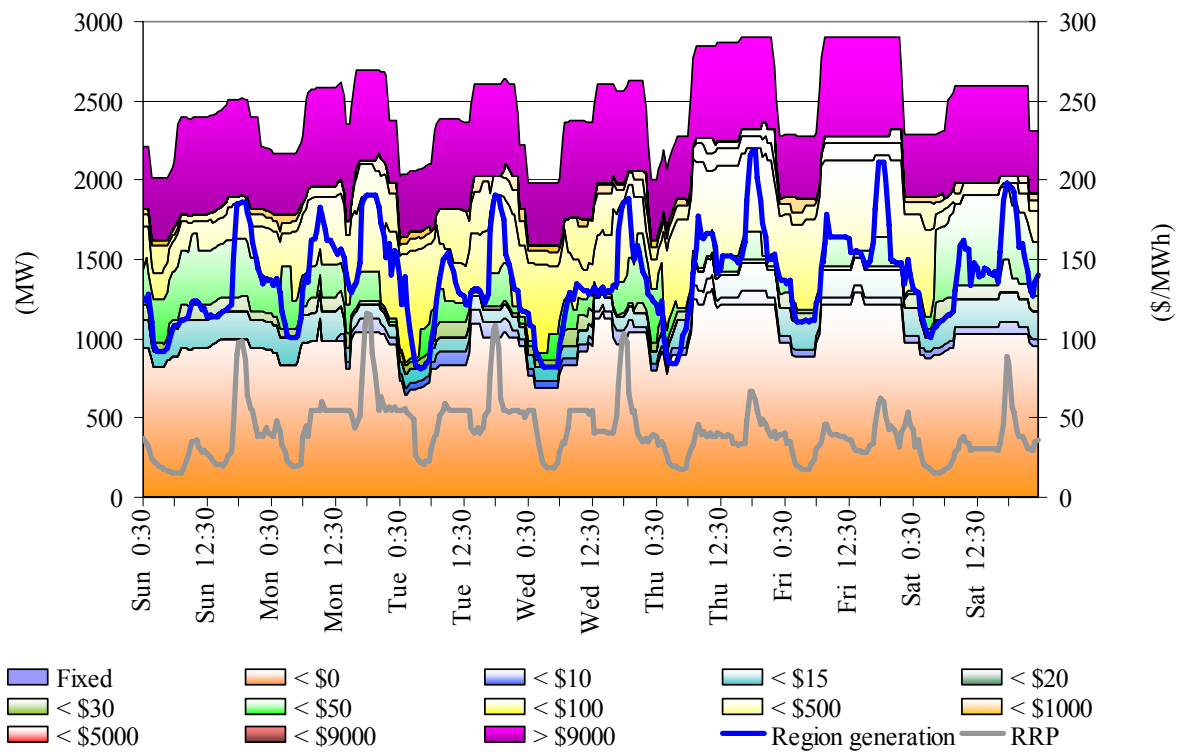
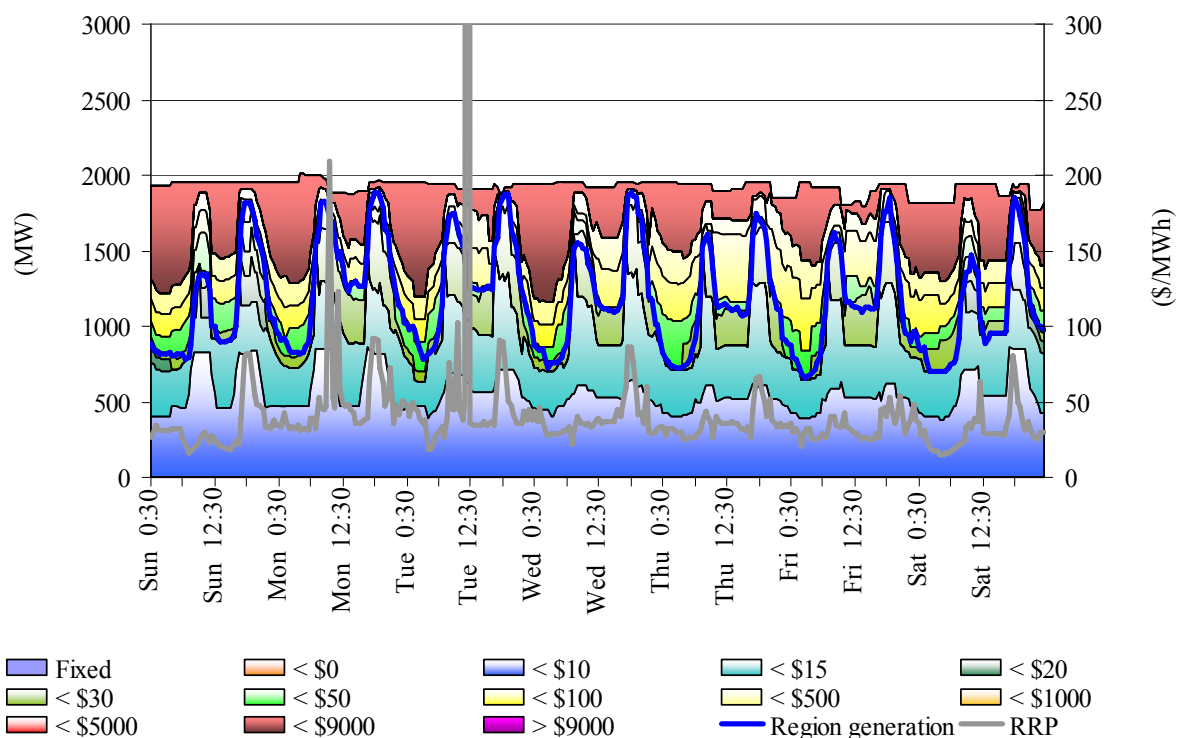


Figure 56: Tasmania closing bid prices, dispatched generation and spot price



Ancillary service market

The total cost of ancillary services on the mainland for the week was \$92 000 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 mainland.

Figure 57: 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)	0.49	0.11	0.69	0.65	0.14	0.04	0.19	0.90
Previous week (\$/MW)	0.50	0.09	0.59	0.97	0.15	0.05	0.26	0.87
Last quarter (\$/MW)	1.76	0.73	1.15	1.54	0.39	2.28	5.00	1.93
Market Cost (\$1000s)	18	3	38	13	0.4	0.1	3	15
% of energy market	0.01%	0.00%	0.03%	0.01%	0.00%	0.00%	0.00%	0.01%

The total cost of ancillary services in Tasmania for the week was \$282 000 or 2.6 per cent of the total turnover in the energy market in Tasmania. High prices on Tuesday for raise 6 second and raise regulation services coinciding with BassLink approaching the 50 MW no-go zone were also reflected into the energy price. 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 (\$/MW)	19.77	0.16	0.99	23.66	18.12	0.07	0.40	0.82
Previous week (\$/MW)	3.28	0.32	0.69	2.36	32.15	0.05	0.40	0.81
Last quarter (\$/MW)	7.89	1.05	1.05	1.58	4.43	1.06	1.06	1.97
Market Cost (\$1000s)	114	2	17	67	70	1	6	5
% of energy market	1.05%	0.02%	0.15%	0.62%	0.64%	0.01%	0.05%	0.04%

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

Figure 59: daily frequency control ancillary service costs

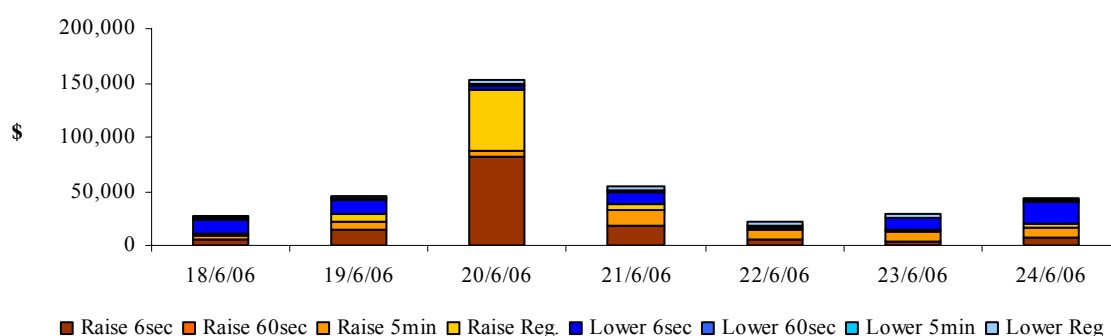
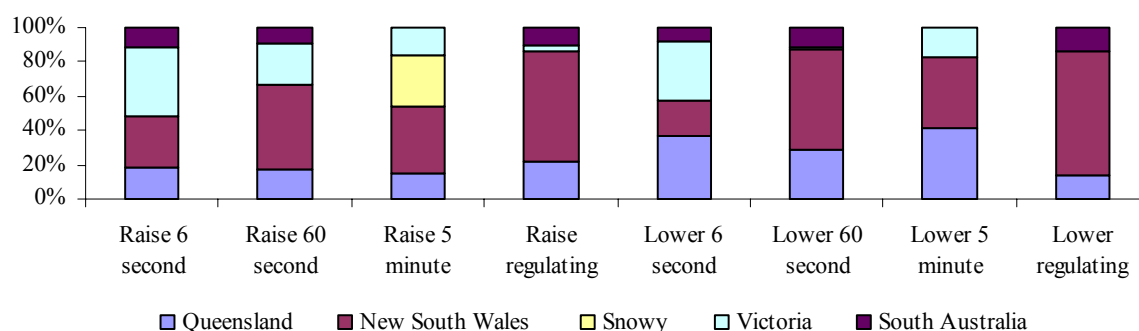


Figure 60 shows the contribution, on a percentage basis, that frequency control ancillary service providers are utilised (in each mainland region) to satisfy the total requirement for each service.

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

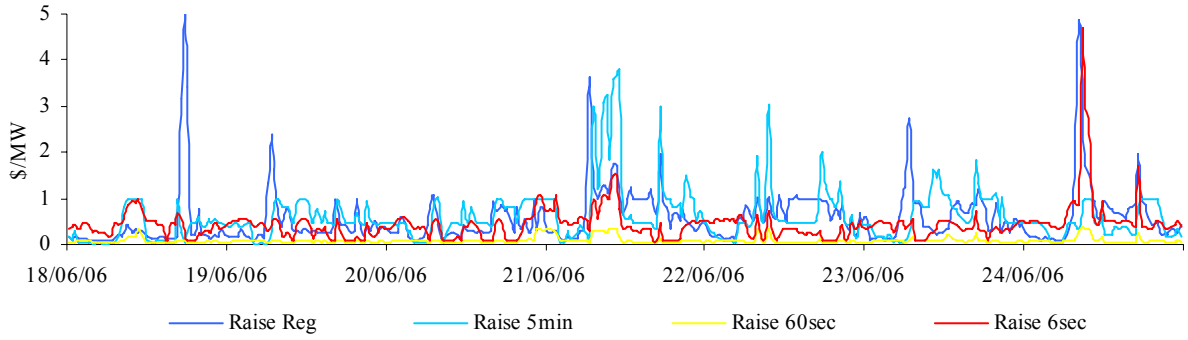


Figure 61A: prices for raise services - Tasmania

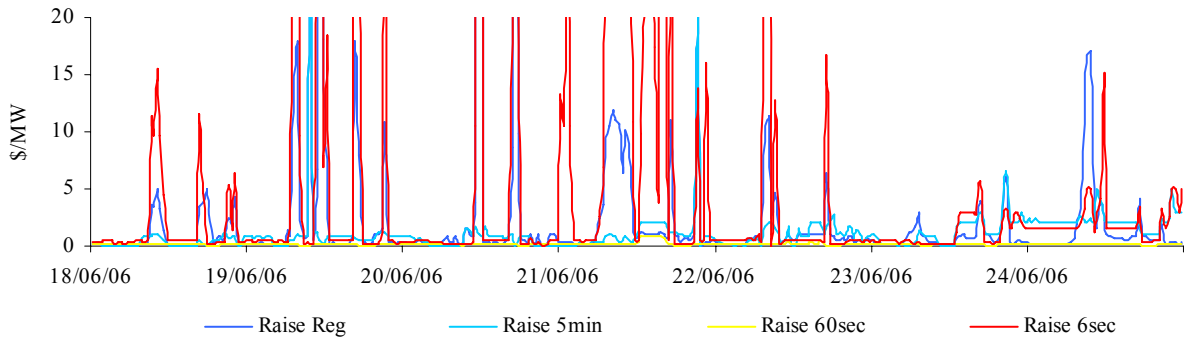


Figure 62: prices for lower services

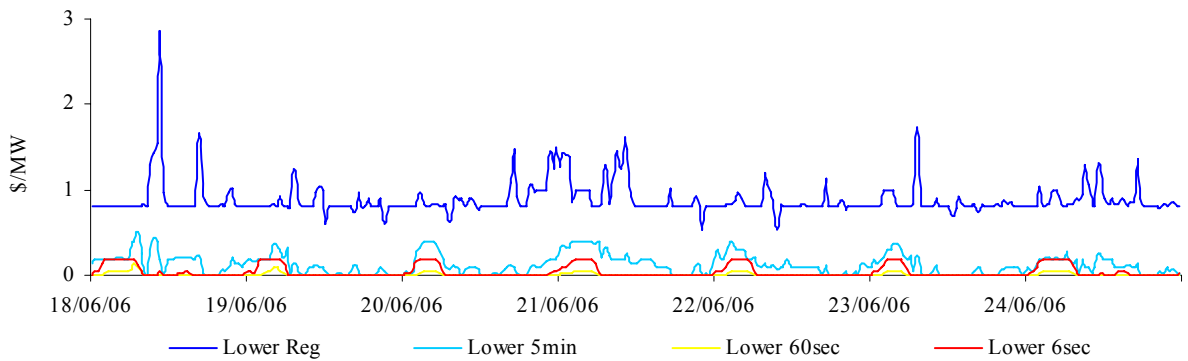
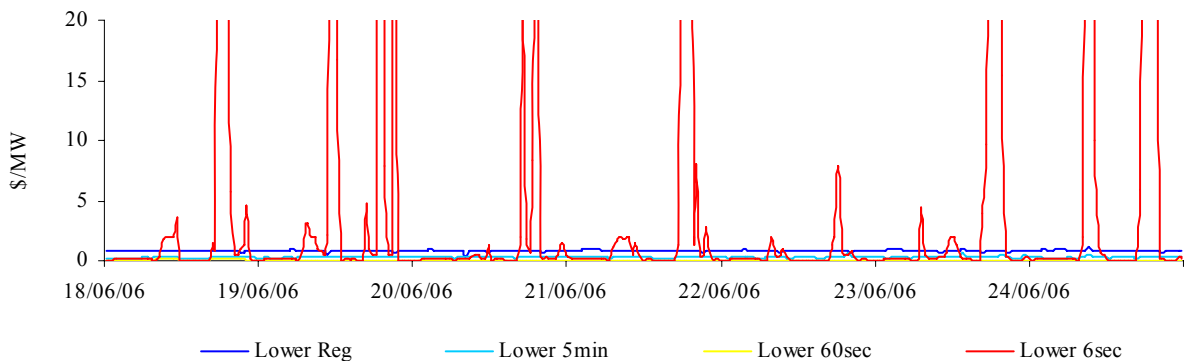


Figure 62A: prices for lower services - Tasmania



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

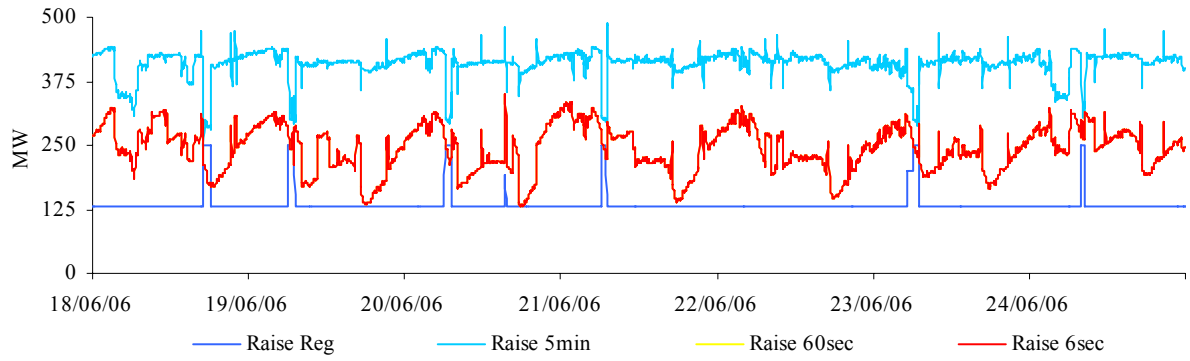


Figure 63A: raise requirements - Tasmania

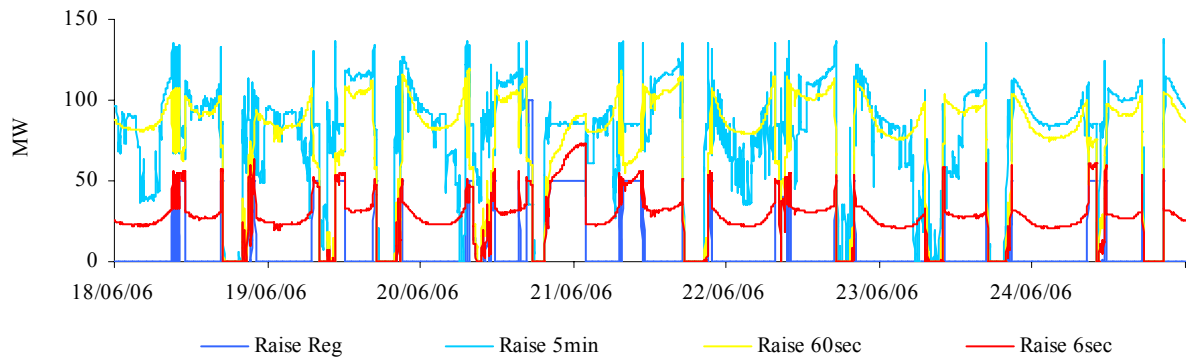


Figure 64: lower requirements

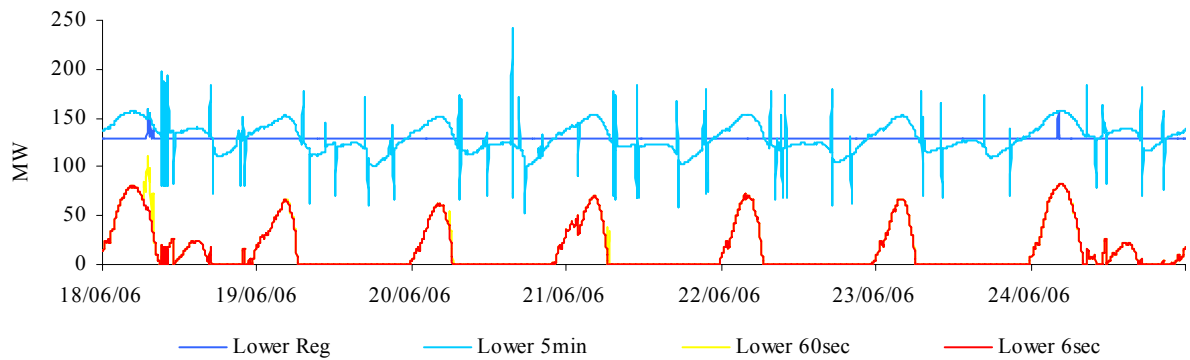


Figure 64A: lower requirements - Tasmania

