

16 APRIL – 22 APRIL 2006

Spot prices were aligned across the mainland for 95 per cent of the time, averaging between \$21/MWh in Queensland and \$27/MWh in South Australia. The average weekly price in Tasmania was \$32/MWh.

Turnover in the energy market was \$82 million. The total cost of ancillary services for the week, including Tasmania, was around \$480 000, or approximately 0.6 per cent of energy market turnover.

Significant variations between actual prices and those forecast 4 and 12 hours ahead occurred in 29, or around 9 per cent of all trading intervals. Demand forecasts produced 4 and 12 hours ahead varied from actual by more than 5 per cent in around a quarter of all trading intervals across the market. These variations were most frequent in South Australia occurring in 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

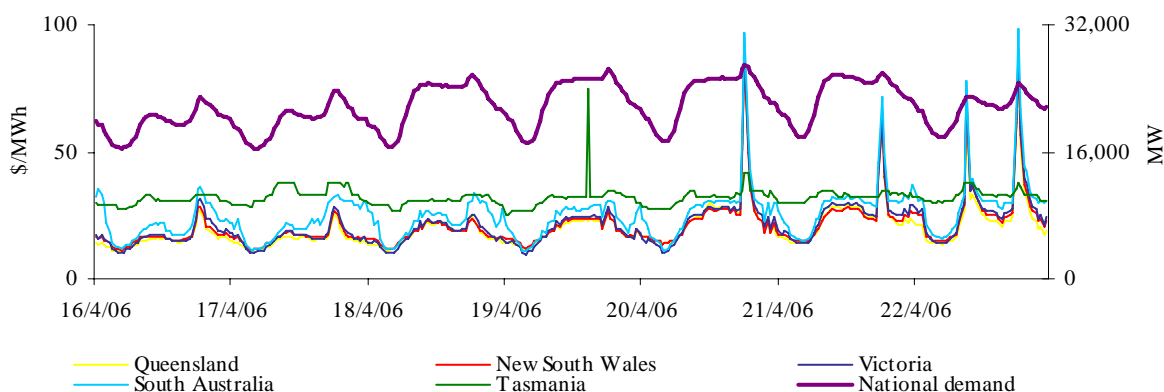


Figure 2: volume weighted average spot price for energy market (\$/MWh)

	QLD	NSW	VIC	SA	TAS
Last week	21	22	22	27	32
Previous week	17	20	26	31	45
Same quarter last year	23	28	27	36	-
Financial year to date	33	46	37	45	65
% change from previous week*	▲24%	▲8%	▼16%	▼15%	▼27%
% change from same quarter last year**	▼9%	▼23%	▼18%	▼25%	-
% change from year to date***	▲1%	▼7%	▲26%	▲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.

Figure 3: volatility index during peak periods

	QLD	NSW	VIC	SA	TAS
Last week	0.55	0.46	0.50	0.37	0.12
Previous week	0.39	0.41	0.41	0.31	0.22
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

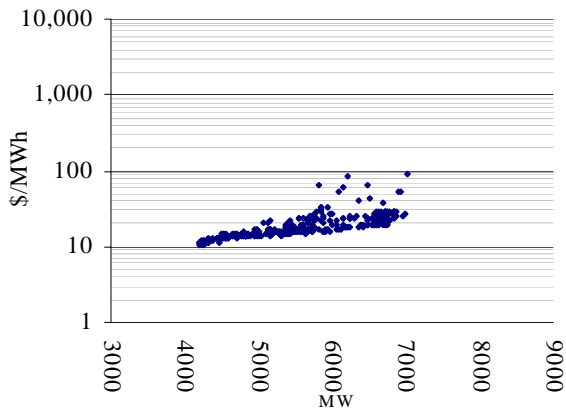


Figure 5: New South Wales

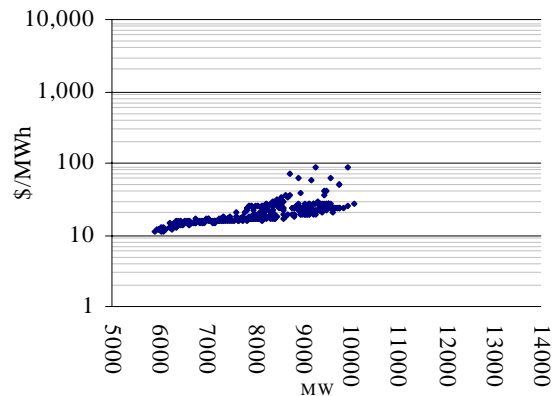


Figure 6: Victoria

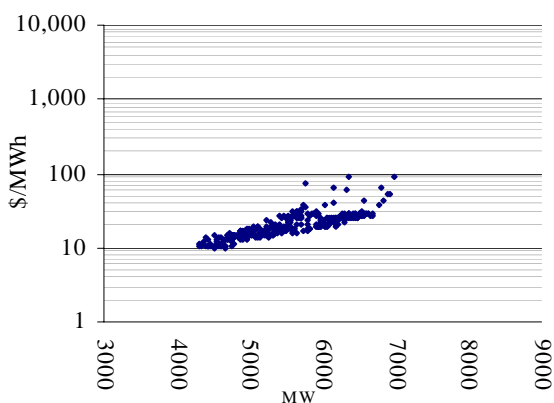


Figure 7: South Australia

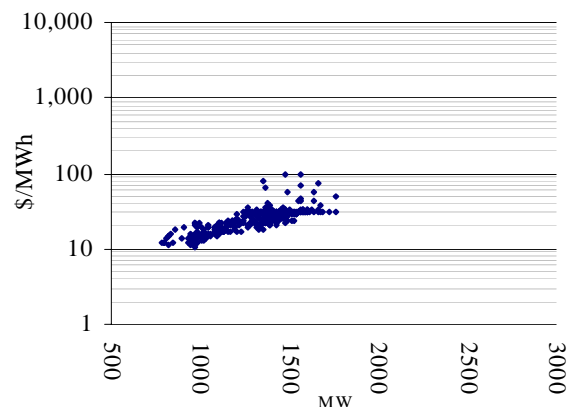
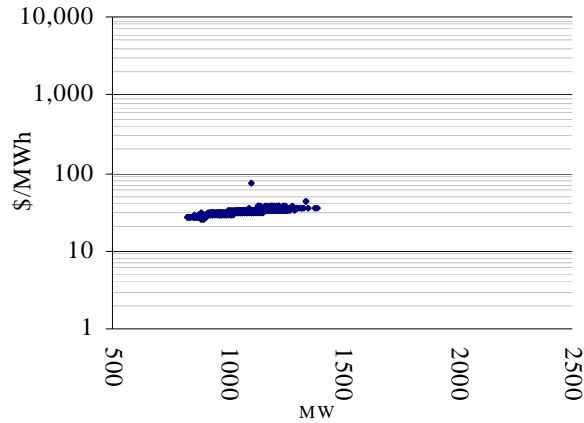


Figure 8: Tasmania



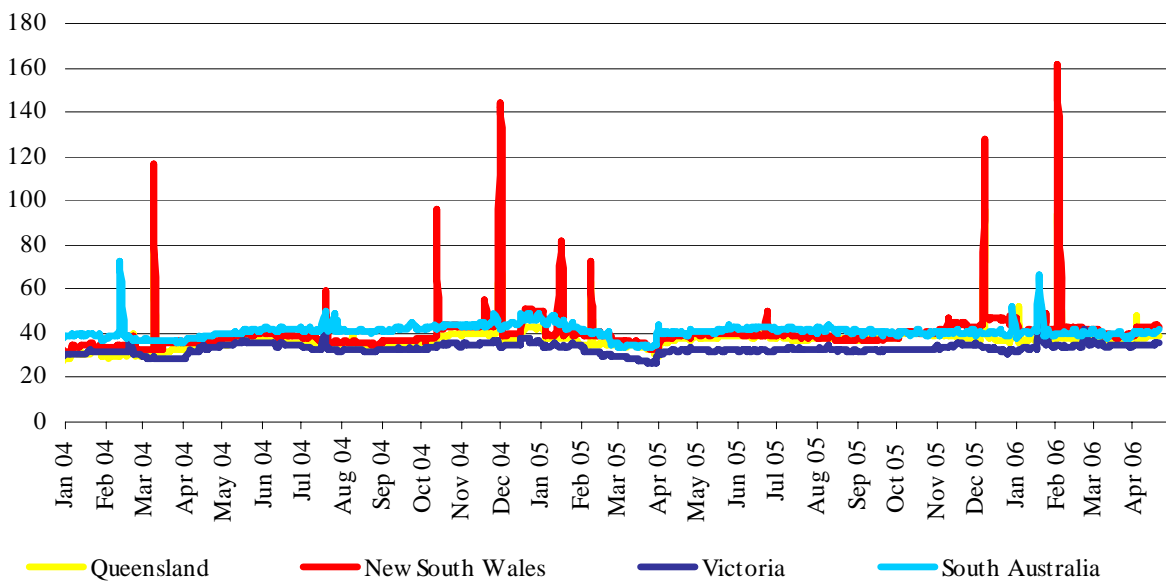
Maximum spot prices across the mainland ranged from \$87/MWh in New South Wales to \$98/MWh in South Australia, these all occurred at 6.30pm on Thursday. In Tasmania, the maximum spot price reached \$75/MWh on Wednesday afternoon.

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	N/A	38.63	39.23	38.83	39.06
New South Wales	N/A	42.88	43.58	43.45	42.95
Victoria	N/A	35.07	35.35	35.71	35.69
South Australia	N/A	39.83	40.74	40.81	41.44

Figure 10: d-cyphaTrade WEPI



Reserve

There was no low reserve conditions forecast.

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

Figure 11: Queensland

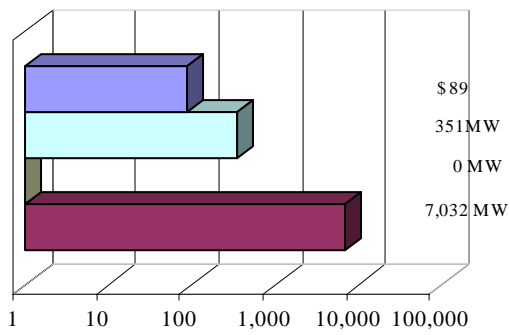


Figure 12: New South Wales

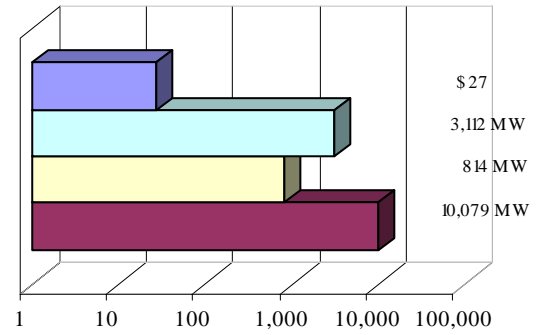


Figure 13: Victoria

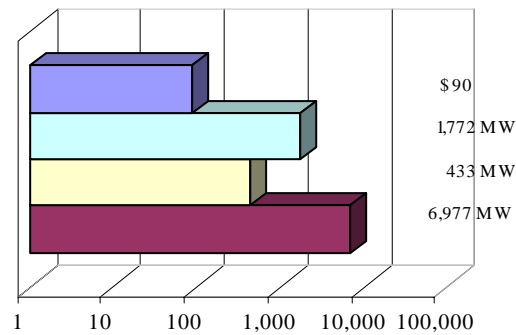


Figure 14: South Australia

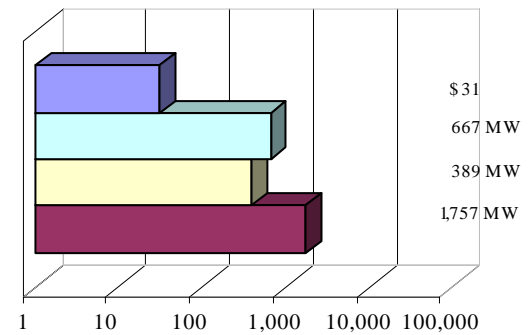
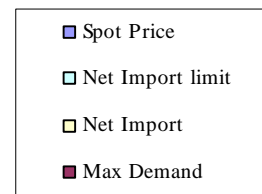
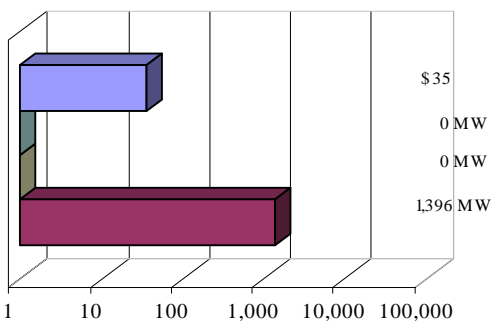


Figure 15: Tasmania



Price variations

There were 29 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

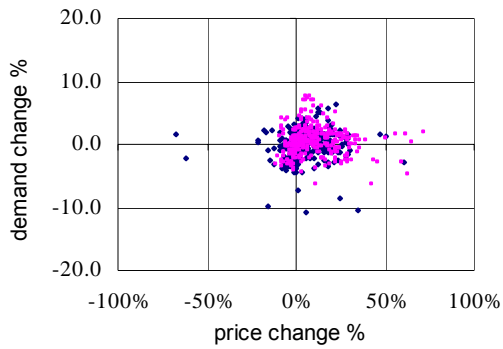


Figure 17: New South Wales

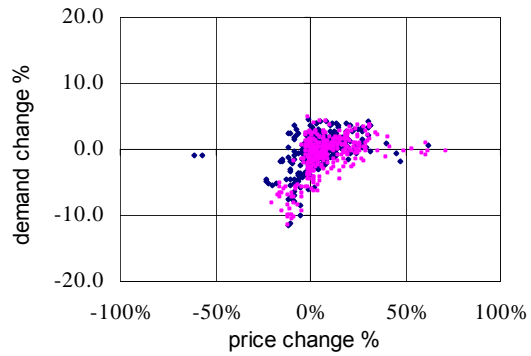


Figure 18: Victoria

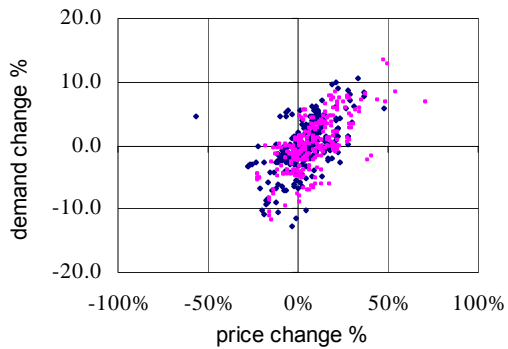


Figure 19: South Australia

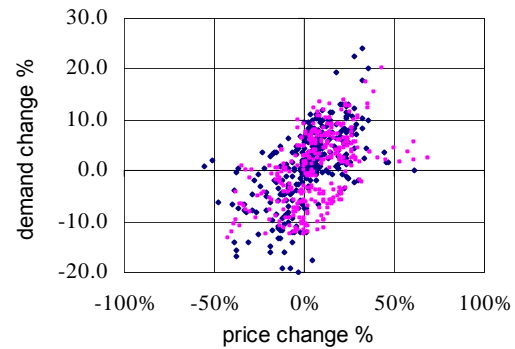


Figure 20: Tasmania

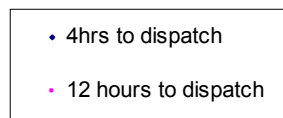
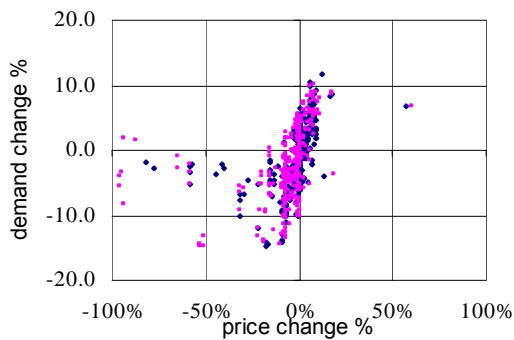
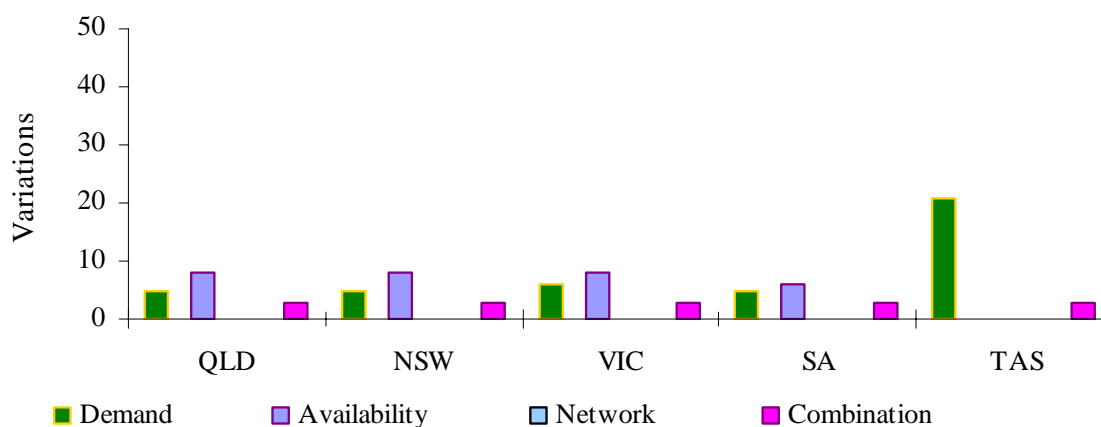


Figure 21 summarises the number and most probable reason for variations between forecast and actual prices.

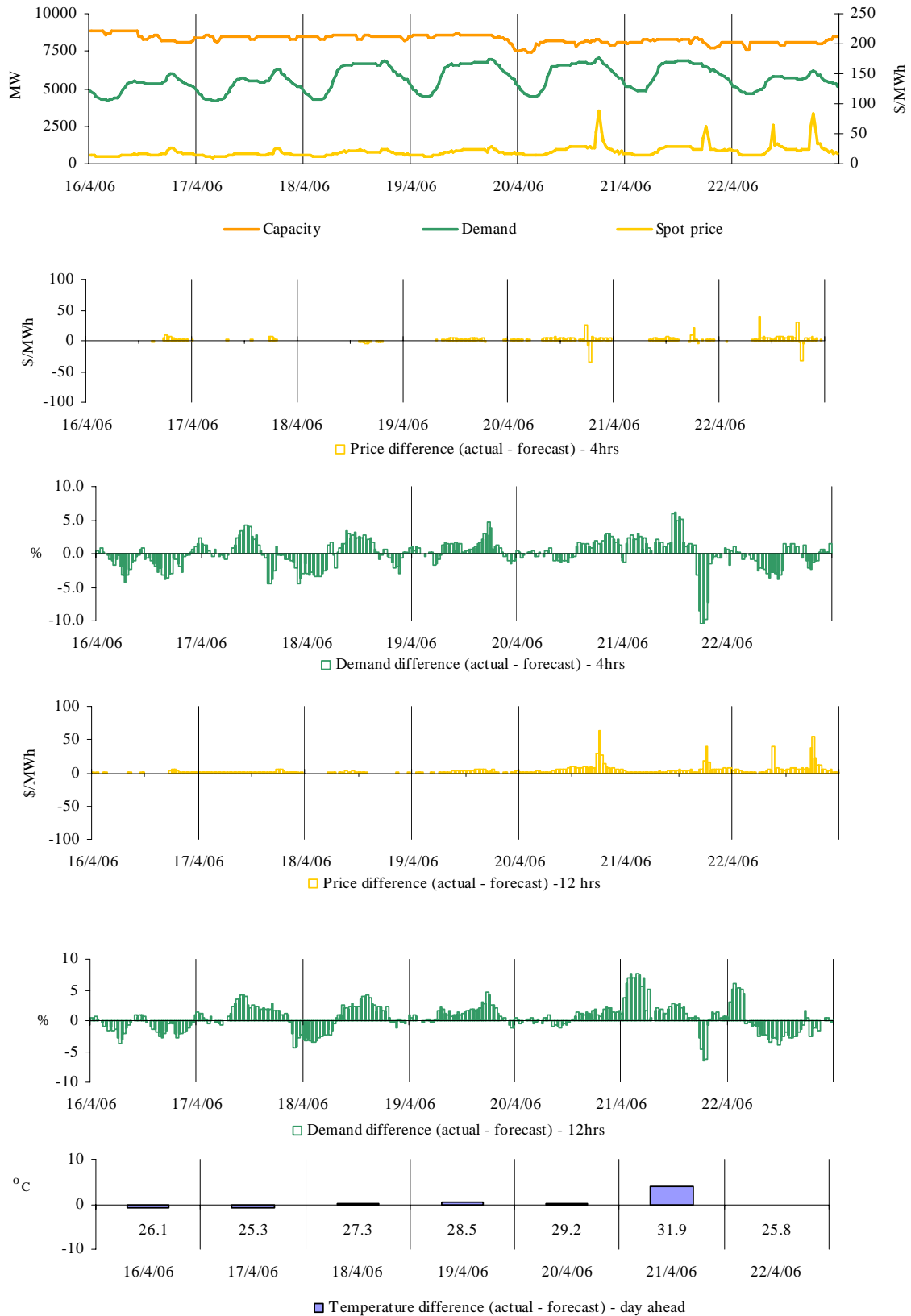
Figure 21: reasons for variations between forecast and actual prices



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 four occasions in Queensland where the spot price was greater than three times the weekly average price of \$21/MWh.

Thursday, 20 April

6:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	88.80	96.44	24.54
Demand (MW)	7032	6897	6903
Available capacity (MW)	8331	8231	8774

Conditions at the time saw demand and availability close to forecast. Price was close to forecast four hours ahead, and aligned across the mainland.

At around 11 pm the previous evening, Tarong Energy's Tarong North tripped from 440 MW. At around 2 pm a delay in the return of the unit saw 440 MW of capacity removed for the 6.30pm trading interval. All of this capacity was priced at less than \$11/MWh. The rebid reason given was "RTS Delayed::Adjust Profile". As much as 225 MW of capacity at Wivenhoe was shifted from prices above \$9000/MWh to below \$100/MWh by Tarong Energy over the course of the day. The rebid reasons given were "F Change in PD::Extend W2 run" and "F Change in PDS".

There was no other significant rebidding.

Friday, 21 April

6:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	62.61	40.97	23.04
Demand (MW)	6473	7149	6773
Available capacity (MW)	7976	8361	8774

Conditions at the time saw demand around 700 MW lower than forecast 4 hours ahead. Available capacity was 400 MW lower than forecast 4 hours ahead and 800 MW lower than 12 hours ahead. Price was aligned across the mainland.

At around 5.30 pm, Enertrade's Gladstone unit 3 tripped from 245 MW. Most of this capacity was priced below \$30/MWh. The unit returned to service at around 9.30 pm.

Further delays in the return of Tarong Energy's Tarong North, following its trip on Wednesday, saw 440 MW of capacity removed from the 6.30pm trading interval through a rebid at around midday. All of this capacity was priced at less than \$15/MWh. The rebid reason given was "RTS Delayed::Adjust Profile".

There was no other significant rebidding.

Saturday, 22 April

9:30 am	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	64.72	25.61	25.88
Demand (MW)	5829	5999	5999
Available capacity (MW)	8128	8282	8282

Conditions at the time saw demand and available capacity close to forecast, with prices aligned across the mainland.

At 9 am, CS Energy reduced the availability of Callide B2 by around half or 185 MW. Most of this capacity was priced at less than \$15/MWh. The rebid reason given was “CB2 ash plant problems”.

There was no other significant rebidding.

Saturday, 22 April

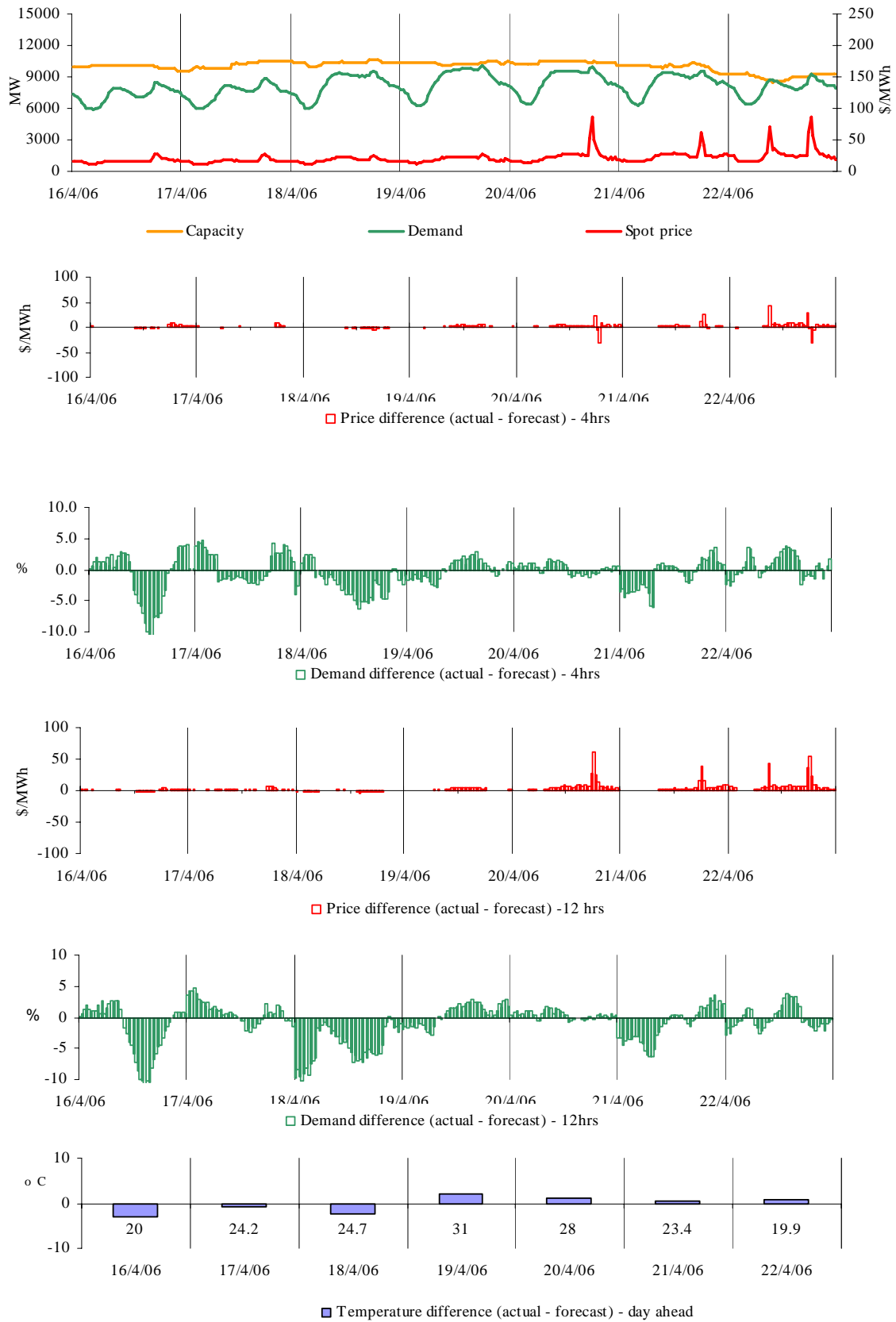
6:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	83.38	85.69	28.95
Demand (MW)	6204	6271	6175
Available capacity (MW)	8129	8097	8725

Conditions at the time saw demand, available capacity and price close to forecast 4 hours ahead, with prices aligned across the mainland.

There was around 600 MW of low priced capacity removed from the market, compared to that forecast 12 hours earlier, following further delays in the return of Tarong Energy’s Tarong North, and the reduction of CS Energy’s Callide B 2 earlier in the day.

There was no other significant rebidding.

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



There were three occasions in New South Wales where the spot price was greater than three times the weekly average price of \$22/MWh.

Thursday, 20 April

6:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	87.04	92.19	25.01
Demand (MW)	9936	10 002	9953
Available capacity (MW)	10 367	10 505	10 505

Conditions at the time saw demand and available capacity close to forecast four hours ahead, with prices were aligned across the mainland.

There was no significant rebidding.

Saturday, 22 April

9:30 am	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	71.55	27.46	27.77
Demand (MW)	8744	8697	8811
Available capacity (MW)	8659	8895	8895

Conditions at the time saw demand close to forecast with availability around 250 MW lower than forecast four hours ahead. Prices were aligned across the mainland.

Rebids made close to dispatch saw reductions in availability totaling around 250 MW, across the Macquarie Generation and Eraring portfolios and at Redbank. Most of this capacity was priced at less than \$30/MWh.

There was no other significant rebidding.

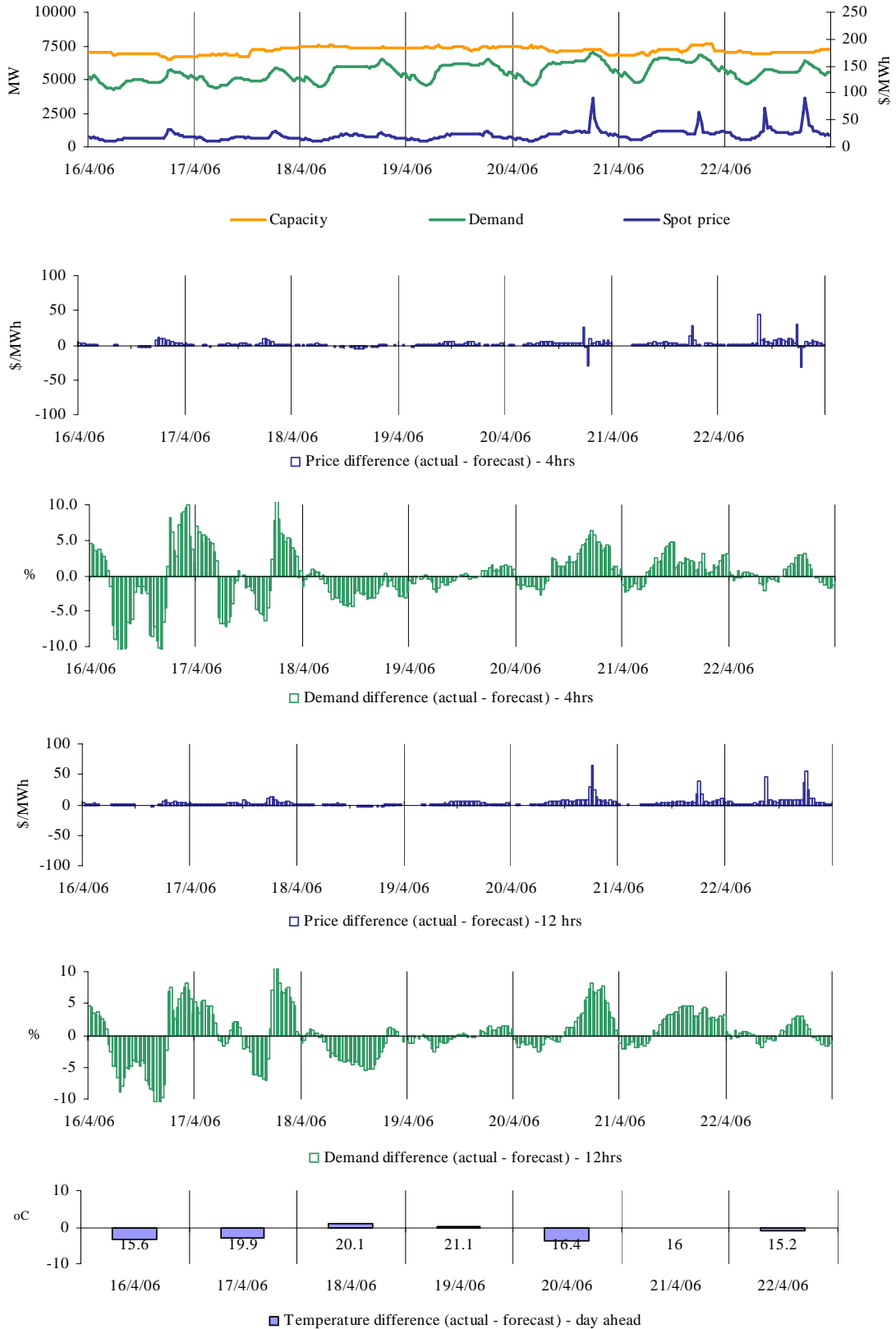
Saturday, 22 April

6:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	86.79	88.60	32.99
Demand (MW)	9259	9359	9301
Available capacity (MW)	9235	9235	9280

Conditions at the time saw demand, available capacity and price close to forecast four and 12 hours ahead, with prices aligned across the mainland.

There was no significant rebidding.

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



There were three occasions in Victoria where the spot price was greater than three times the weekly average price of \$22/MWh.

Thursday, 20 April

6:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	90.27	93.42	26.34
Demand (MW)	6977	6639	6503
Available capacity (MW)	7255	7246	7408

Conditions at the time saw demand 350 MW higher than forecast four hours ahead with available capacity and price close to forecast. Prices were aligned across the mainland.

There was no significant rebidding.

Saturday, 22 April

9:30 am	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	72.88	28.15	27.87
Demand (MW)	5763	5785	5781
Available capacity (MW)	6927	7109	7223

Conditions at the time saw demand and available capacity close to that forecast four hours ahead. Prices were aligned across the mainland. Available capacity was 300 MW lower than forecast 12 hours ahead.

From midnight, International Power reduced the available capacity at Hazelwood by around 490 MW. The rebid reasons given were “Coal Supply Problem”, Fuel limitation” and “Draft Plant Limit”. As a result of the coal supply problems, unit one at Hazelwood was shutdown at around 8am. The unit finally returned to service around midnight.

There was no other significant rebidding.

Saturday, 22 April

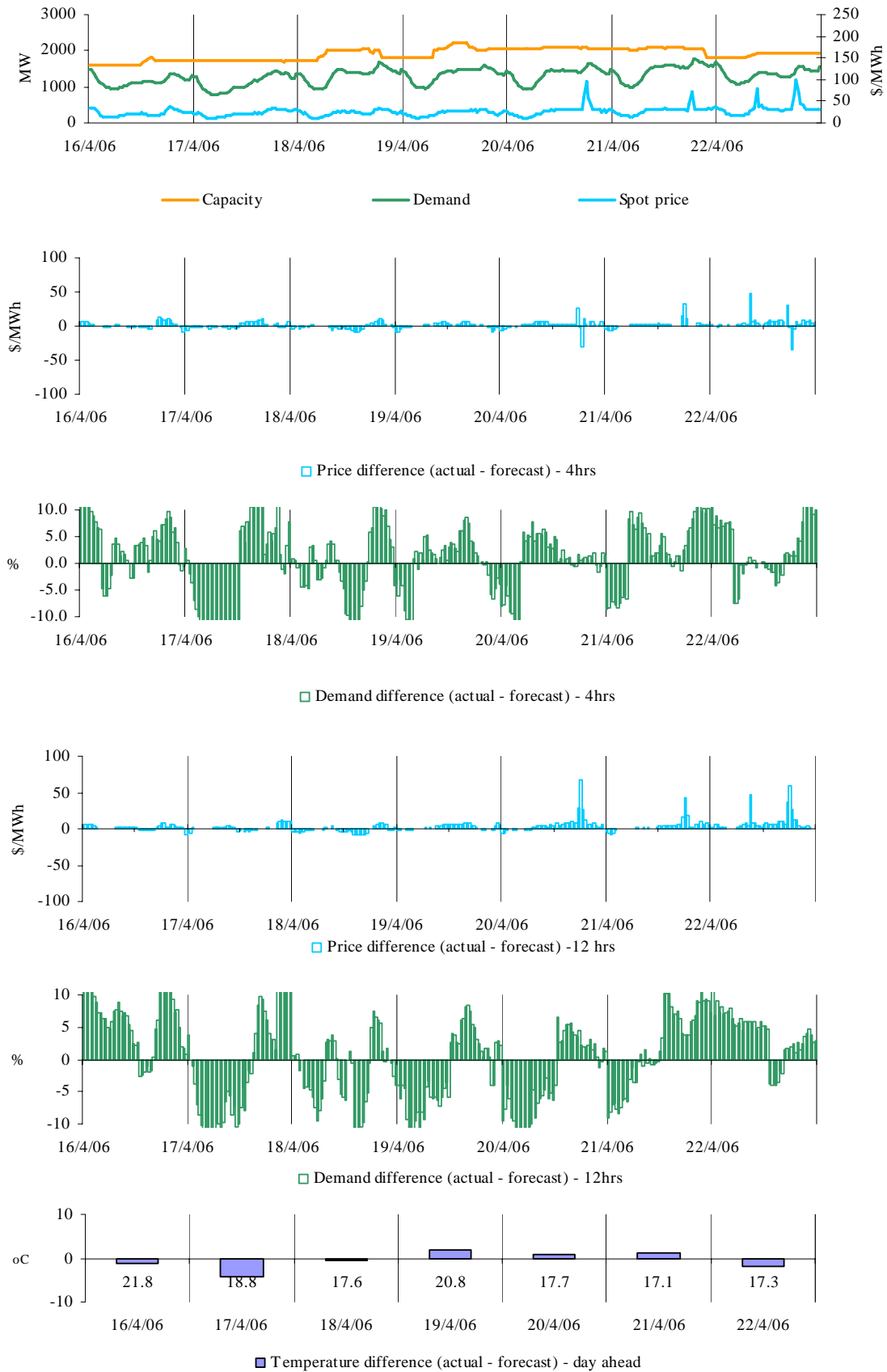
6:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	89.73	92.90	34.77
Demand (MW)	6353	6252	6245
Available capacity (MW)	7011	7149	7242

Conditions at the time saw demand and available capacity close to forecast four hours ahead. Prices were aligned across the mainland. Available capacity was 250 MW lower than forecast 12 hours ahead. .

There was around 180 MW of low priced capacity removed from the market following delays in the return of International Power’s Hazelwood unit 1 from an outage earlier in the day.

There was no other significant rebidding.

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



There were two occasions in South Australia where the spot price was greater than three times the weekly average price of \$27/MWh.

Thursday, 20 April

6:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	96.70	98.95	30.03
Demand (MW)	1563	1554	1527
Available capacity (MW)	2088	2091	2091

Conditions at the time saw demand and available capacity close to that forecast 4 hours earlier. Prices were aligned across the mainland.

There was no significant rebidding.

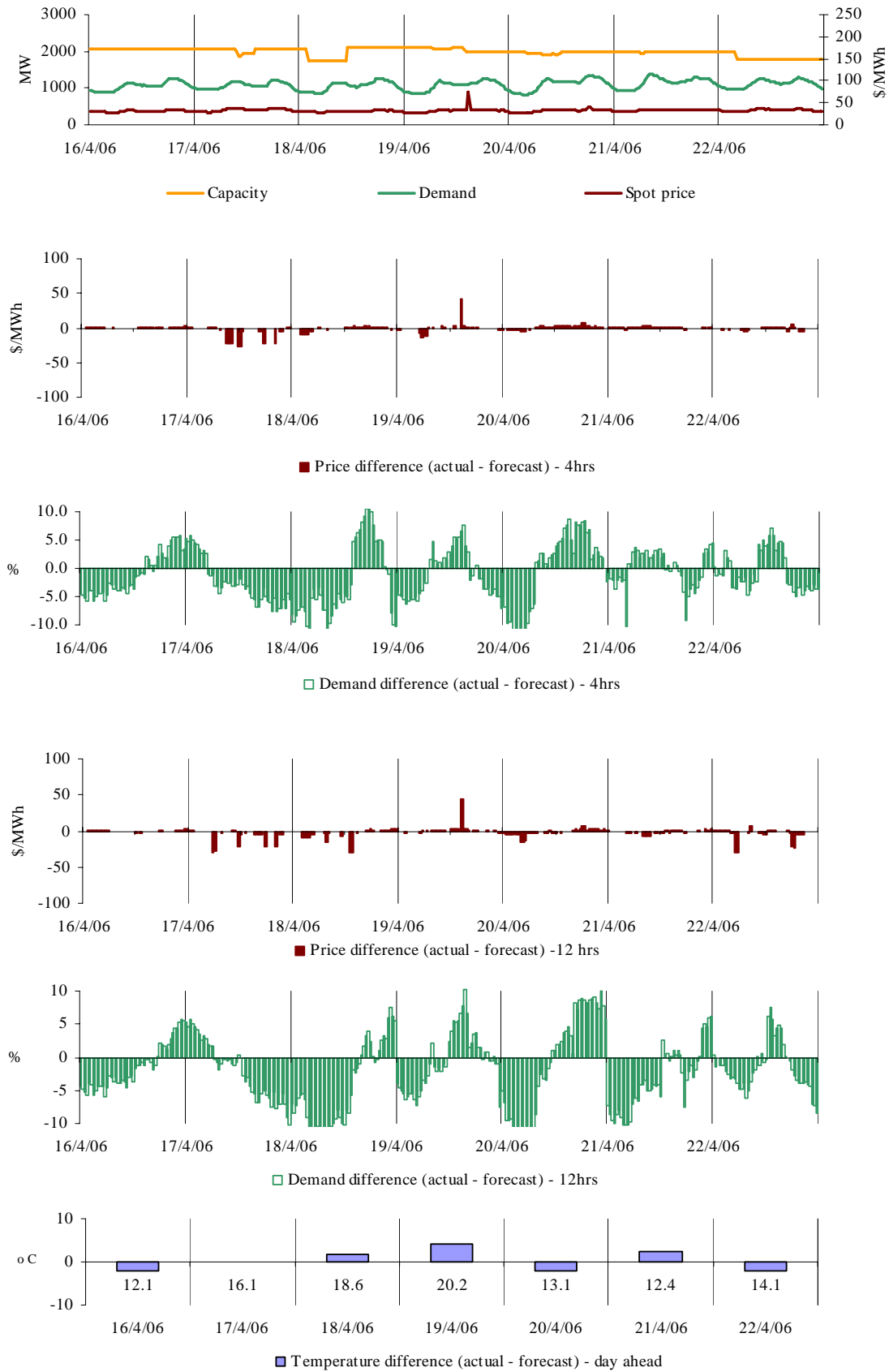
Saturday, 22 April

6:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	98.05	99.41	38.00
Demand (MW)	1483	1463	1454
Available capacity (MW)	1944	1944	1944

Conditions at the time saw demand and available capacity close to forecasts, with prices aligned across the mainland.

There was no significant rebidding

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 \$32/MWh.

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

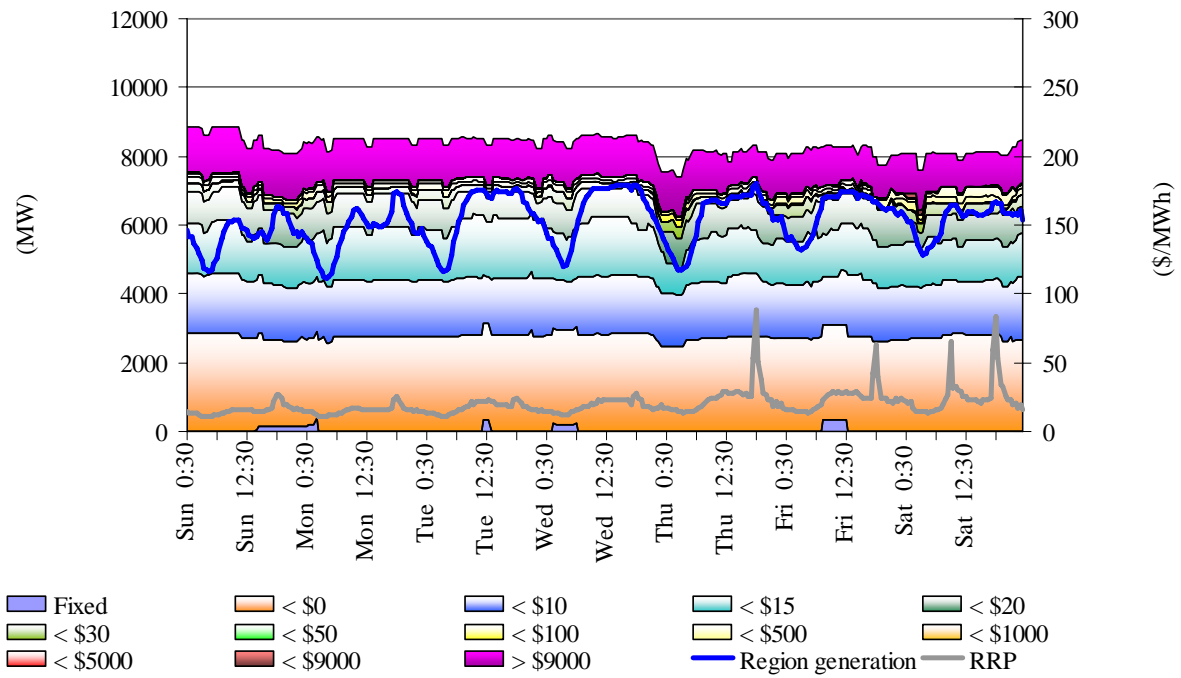


Figure 53: New South Wales closing bid prices, dispatched generation and spot price

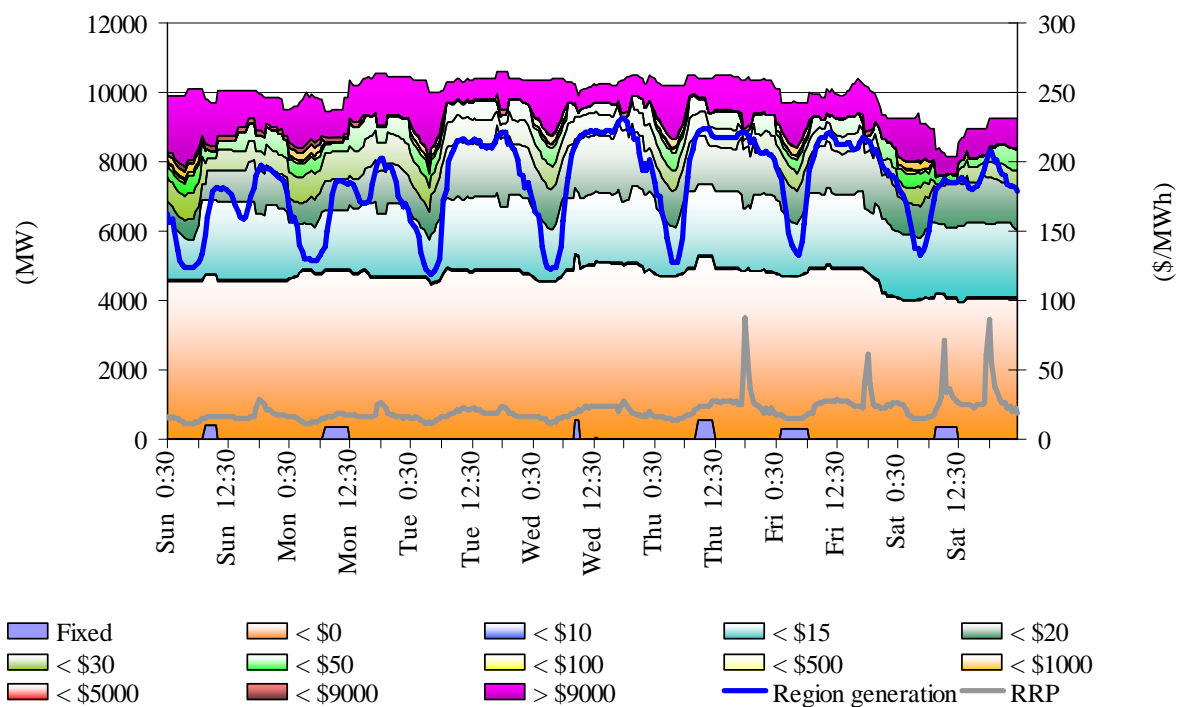


Figure 54: Victoria closing bid prices, dispatched generation and spot price

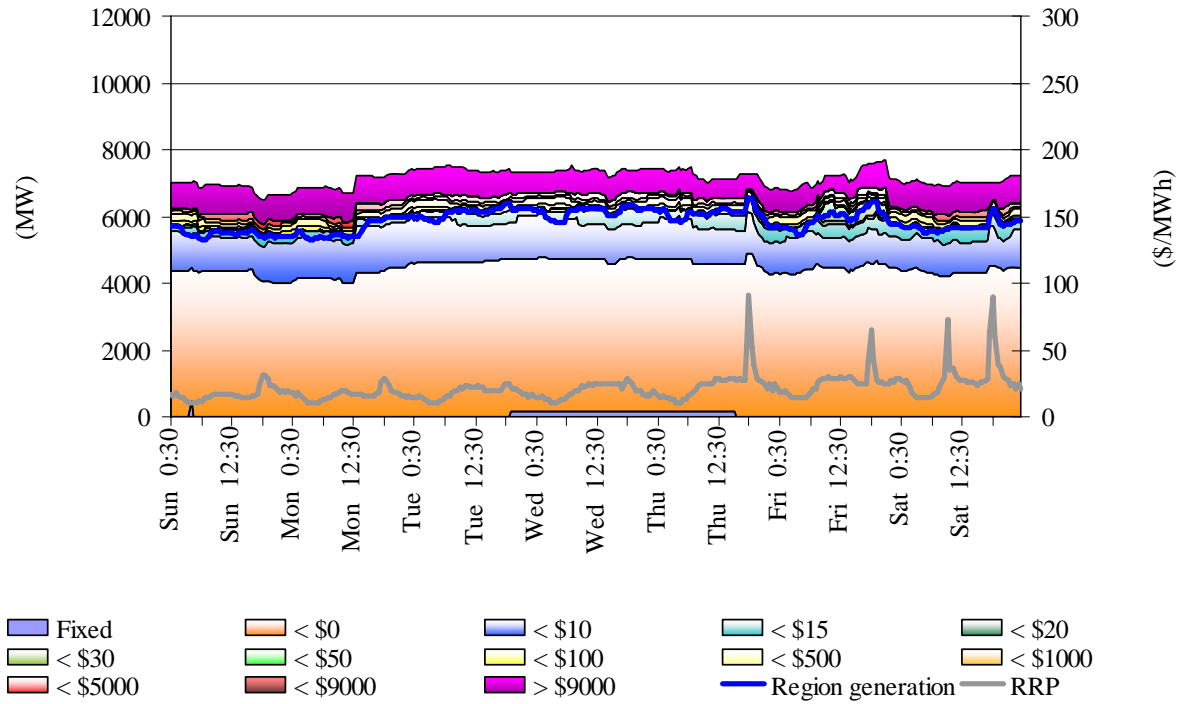


Figure 55: South Australia closing bid prices, dispatched generation and spot price

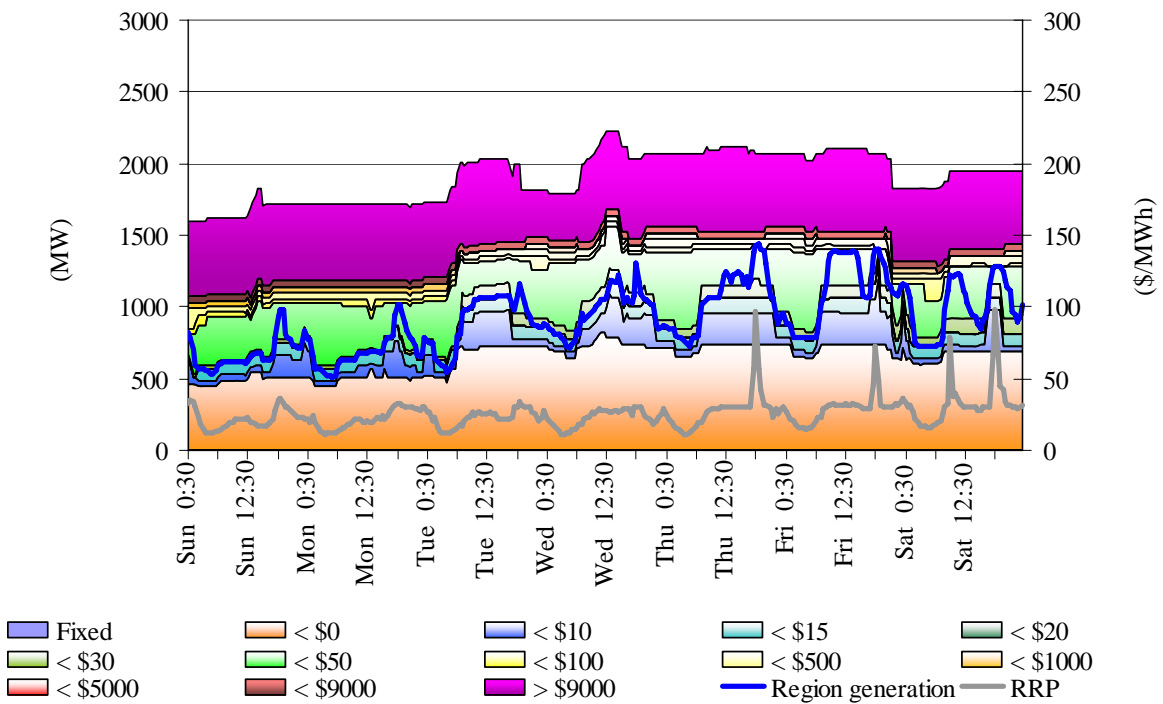
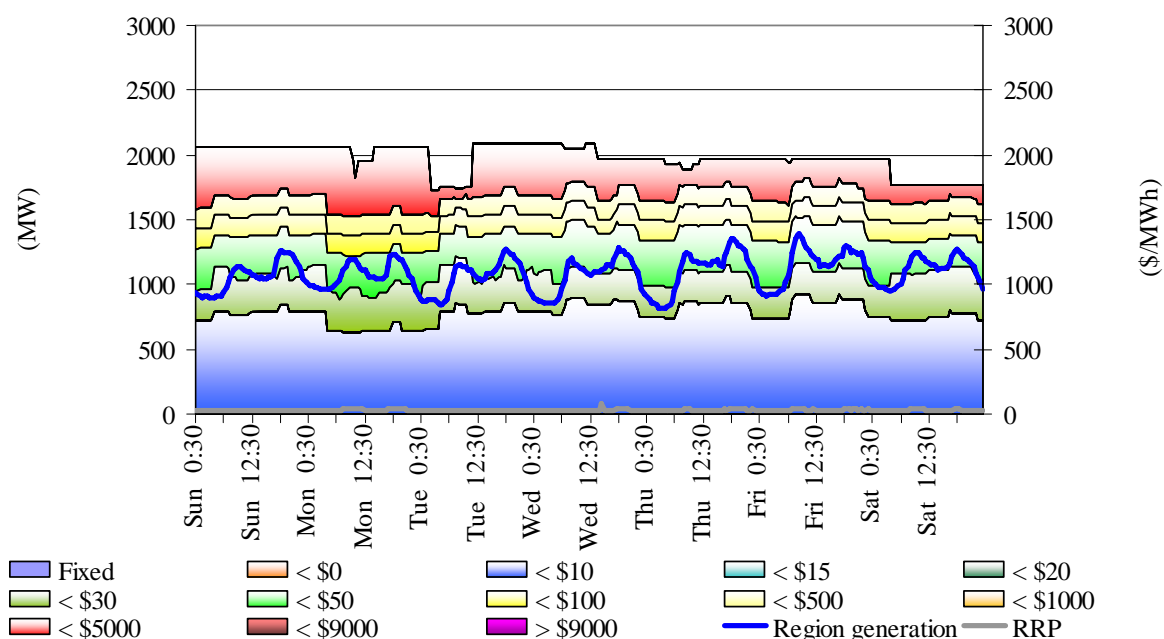


Figure 56: Tasmania closing bid prices, dispatched generation and spot price



Ancillary service market

The total cost of ancillary services on the mainland for the week was around \$445 000 or 0.7 per cent of the total turnover in the energy market on the mainland. 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	2.78	1.00	1.95	1.28	0.29	0.32	1.54	1.89
Previous week	2.78	0.91	1.46	1.16	0.31	0.31	1.08	1.84
Last quarter	1.76	0.73	1.15	1.54	0.39	2.28	5.00	1.93
Market Cost (\$1000s)	147	53	131	28	3	3	38	41
% of energy market	0.24%	0.09%	0.21%	0.05%	0.00%	0.01%	0.06%	0.07%

The total cost of ancillary services in Tasmania for the week was \$35 000 or 0.2 per cent of the total turnover in the energy market in Tasmania. 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	0.15	0.10	0.10	0.12	1.69	0.11	0.10	0.11
Previous week	0.15	0.10	0.10	4.93	0.44	0.10	0.10	0.10
Last quarter	7.89	1.05	1.05	1.58	4.43	1.06	1.06	1.97
Market Cost (\$1000s)	1	1	1	1	25	3	3	1
% of energy market	0.01%	0.00%	0.00%	0.00%	0.12%	0.02%	0.01%	0.00%

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

Figure 59: daily frequency control ancillary service costs

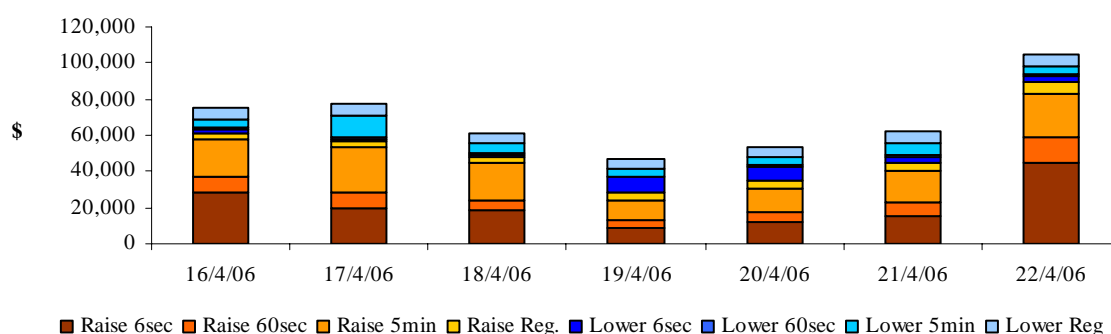
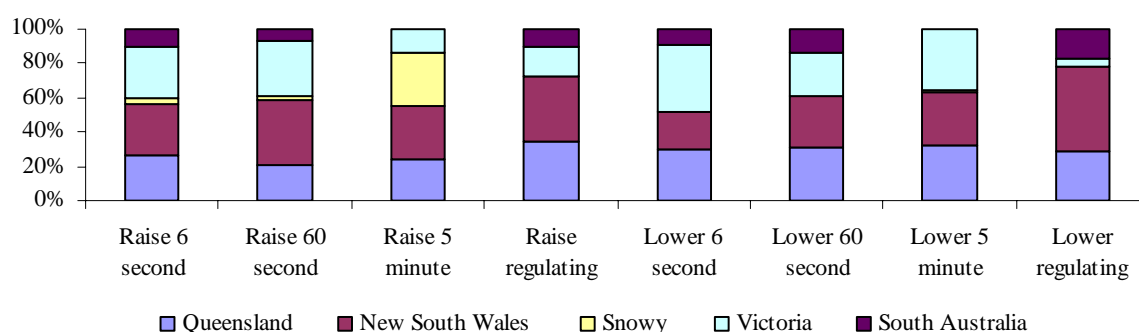


Figure 60 shows the contribution, on a percentage basis, that frequency control ancillary service providers are utilised (in each mainland region) to satisfy the total requirement for each service.

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

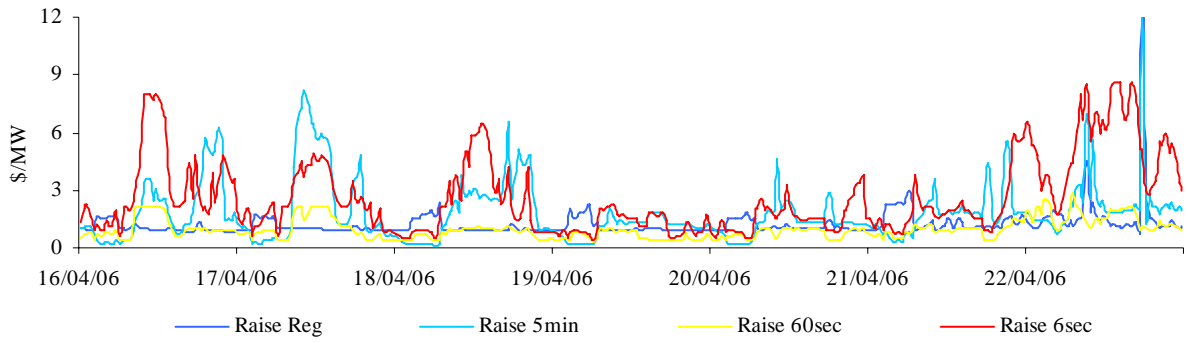


Figure 61A: prices for raise services - Tasmania

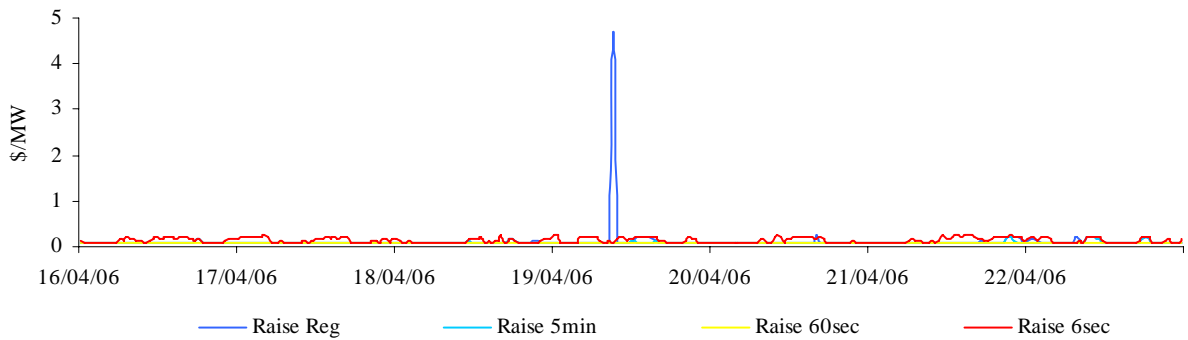


Figure 62: prices for lower services

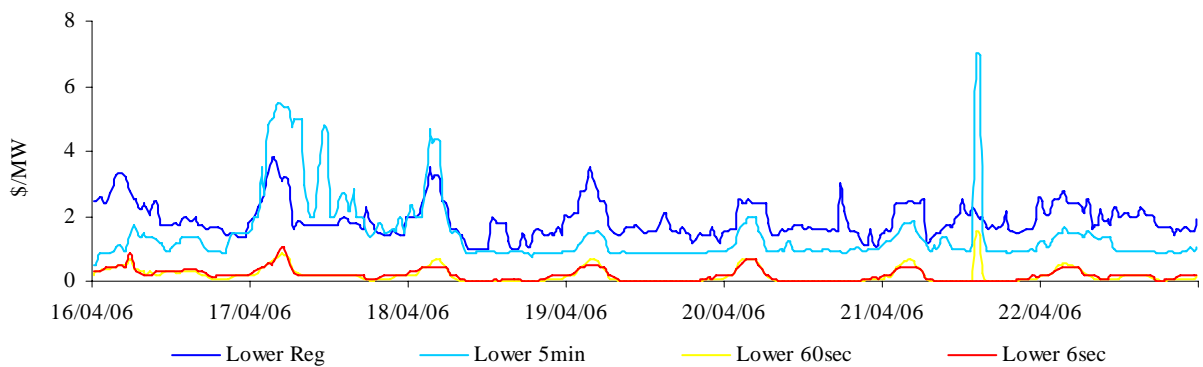
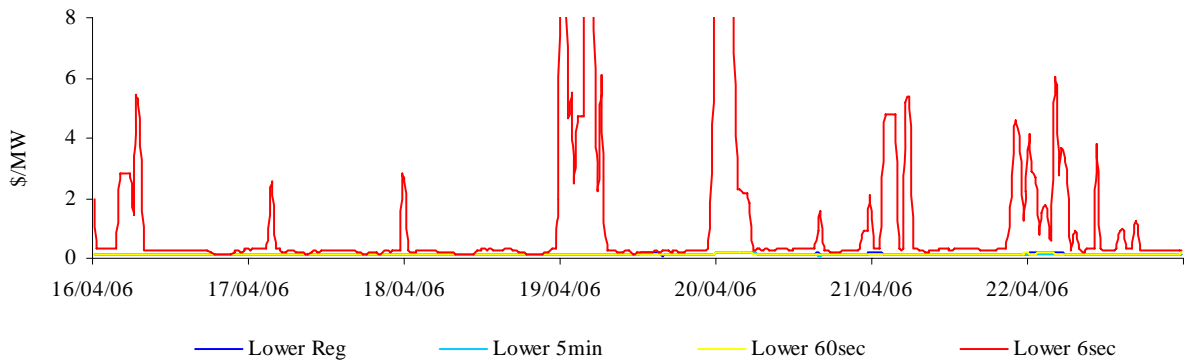


Figure 62A: prices for lower services - Tasmania



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

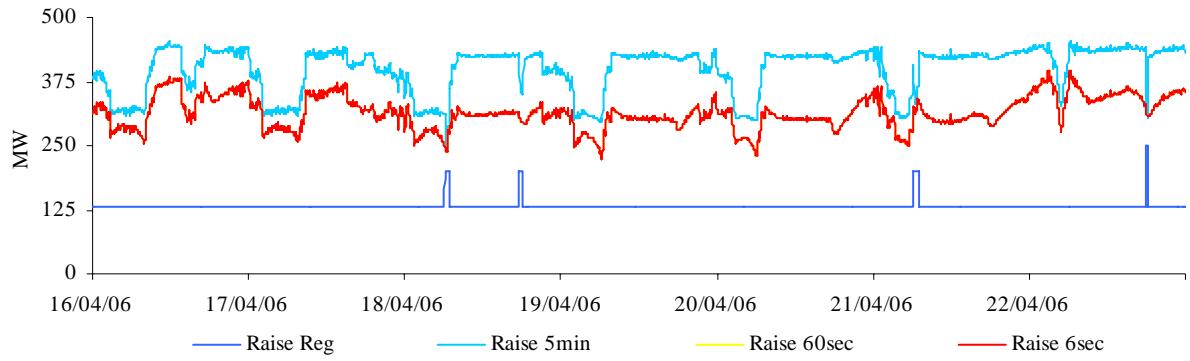


Figure 63A: raise requirements - Tasmania

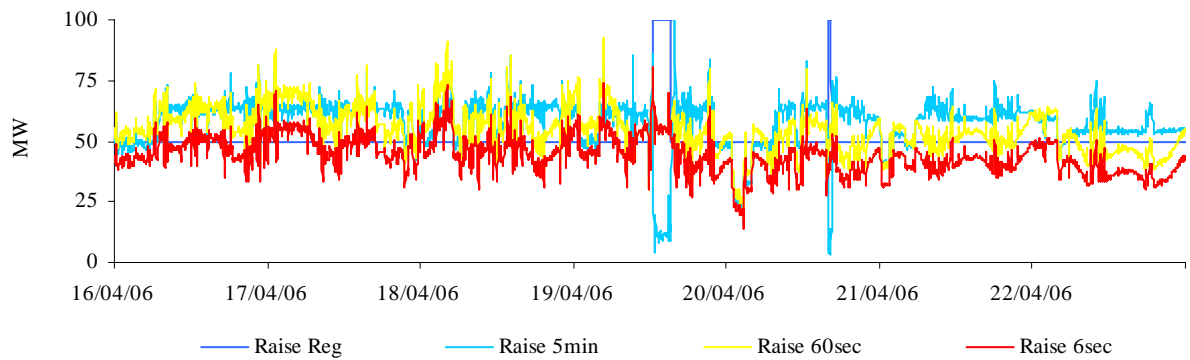


Figure 64: lower requirements

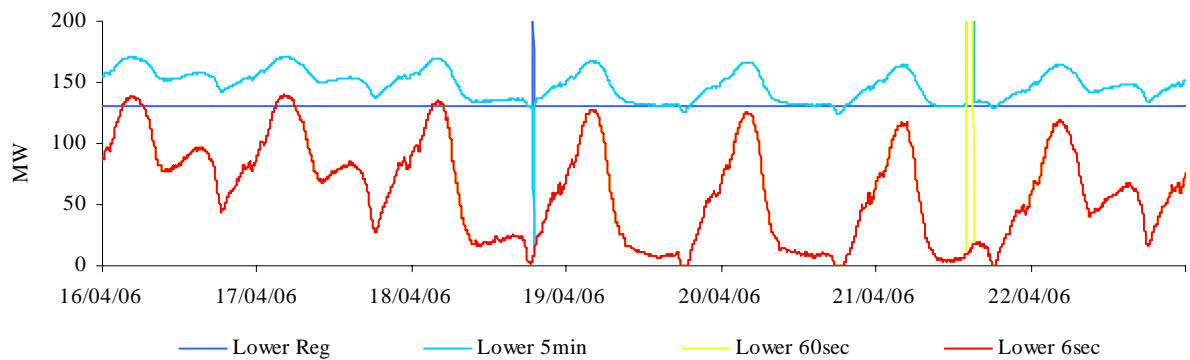


Figure 64A: lower requirements - Tasmania

