

27 January – 2 February 2008

Summary

Spot prices for the week averaged between \$39/MWh in New South Wales and Victoria to \$103/MWh in Queensland. The Queensland trading price reached \$9921/MWh on Wednesday at 4.30 pm following a downgrading in the capability of the network in Queensland as a result of lightning. In accordance with 3.13.7 of the Rules, the AER will be issuing a report into the events of the day.

Turnover in the energy market in the week ended 2 February was \$230 million. The total cost of ancillary services for the week was \$319 000 or 0.1 per cent of energy market turnover.

Significant variations between actual prices and those forecast 4 and 12 hours ahead occurred in 54, or 16 per cent of all trading intervals. Demand forecasts produced 4 and 12 hours ahead varied from actual by more than 5 per cent in 16 per cent of all trading intervals across the market. In South Australia these variations occurred in 44 per cent 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

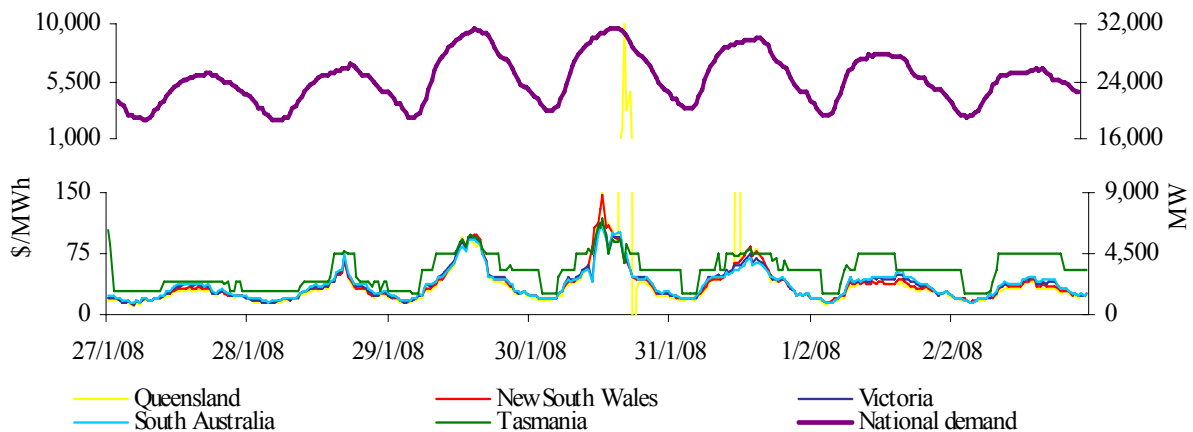


Figure 2: volume weighted average spot price for energy market (\$/MWh)

	QLD	NSW	VIC	SA	TAS
Last week	103	39	39	40	55
Previous week	27	28	31	34	54
Same quarter last year	60	57	75	69	50
Financial year to date	55	49	51	73	54
% change from previous week*	▲280%	▲42%	▲24%	▲20%	▲2%
% change from same quarter last year**	▲73%	▼31%	▼49%	▼42%	▲10%
% change from year to date***	▲62%	▲28%	▲13%	▲51%	▲35%

*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

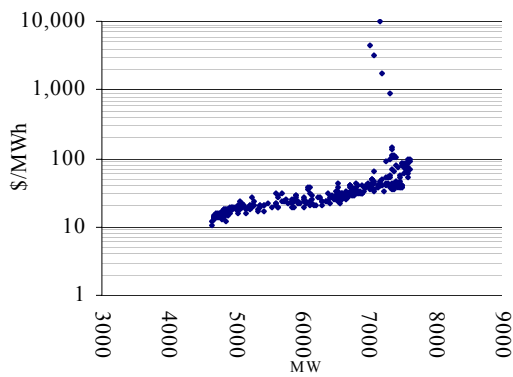


Figure 4: New South Wales

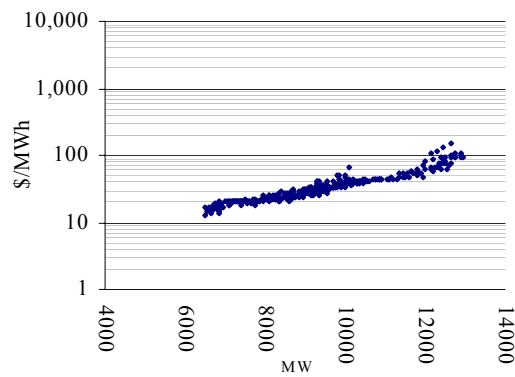


Figure 5: Victoria

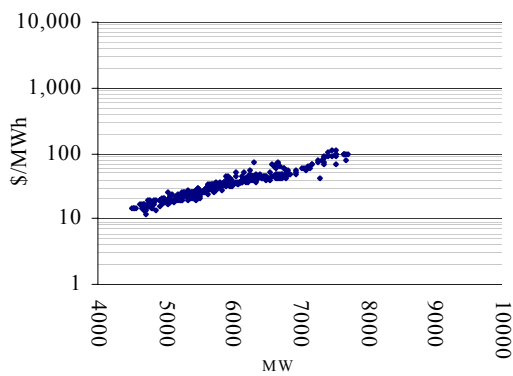


Figure 6: South Australia

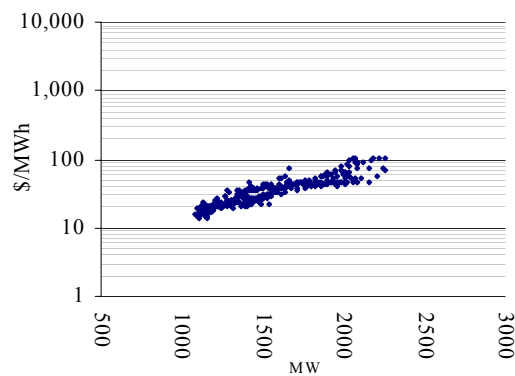
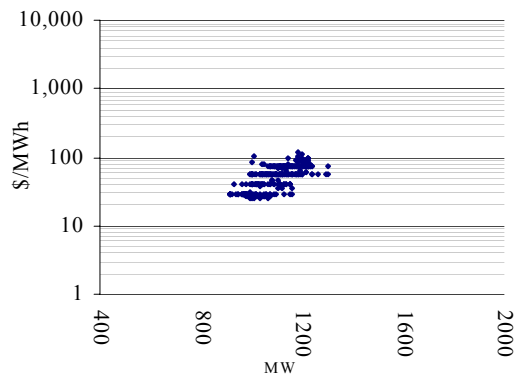


Figure 7: Tasmania



Maximum spot prices for the week ranged from \$106/MWh in South Australia to \$9921/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	1.50	1.20	0.97	0.91	0.58
Previous week	0.56	0.43	0.51	0.50	0.27
Same quarter last year	0.79	0.78	0.78	0.75	0.70

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

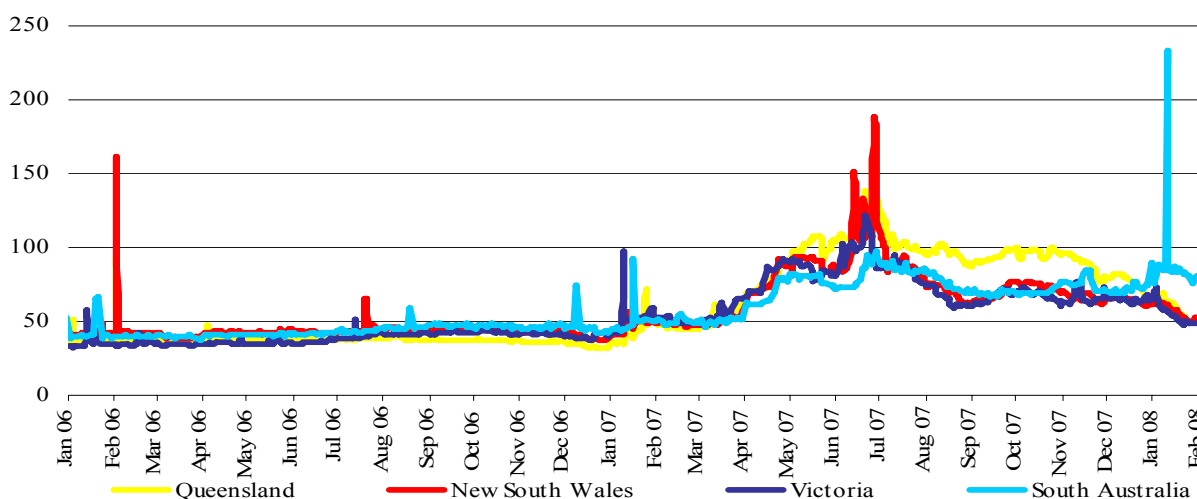
Figure 9 sets out the d-cyphaTrade wholesale electricity price index (WEPI)* for each region throughout the week excluding Tasmania. Figure 10 sets out the WEPI since 1 January 2006.

Figure 9: d-cyphaTrade WEPI for the week

	Monday	Tuesday	Wednesday	Thursday	Friday
Queensland	49.43	50.98	50.39	51.84	52.00
New South Wales	49.63	52.08	52.91	51.80	50.06
Victoria	46.96	50.13	50.60	49.04	49.16
South Australia	75.11	80.03	81.05	77.83	77.91

* 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



Reserves

No low reserve conditions were forecast.

Imports at time of maximum demand

Figures 11 to 15 show spot price, net imports and limits at the time of weekly maximum demand.

Figure 11: Queensland

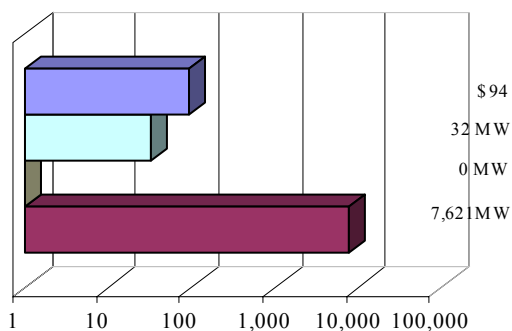


Figure 12: New South Wales

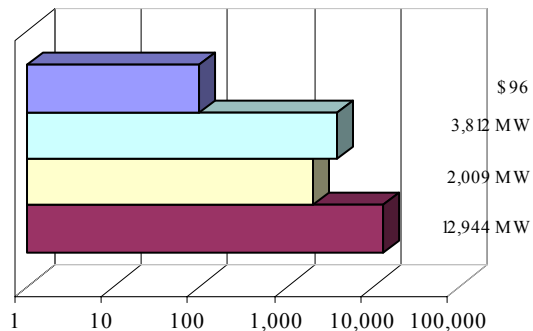


Figure 13: Victoria

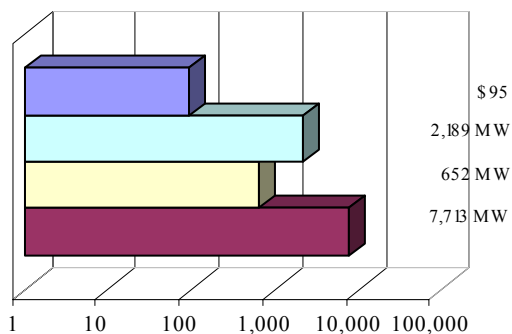


Figure 14: South Australia

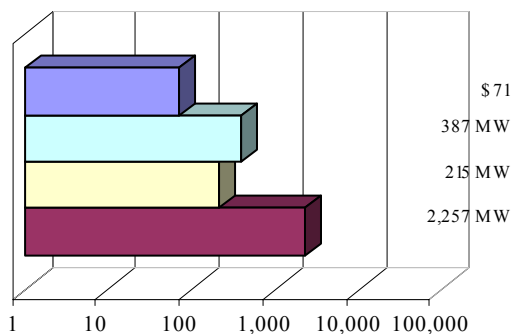
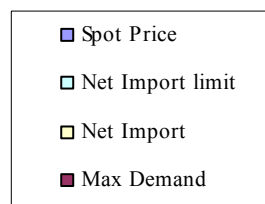
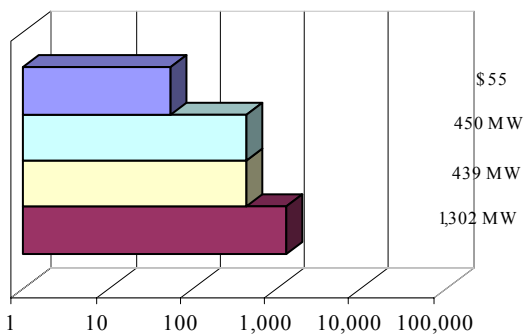


Figure 15: Tasmania



Price variations

There were 54 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 against 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

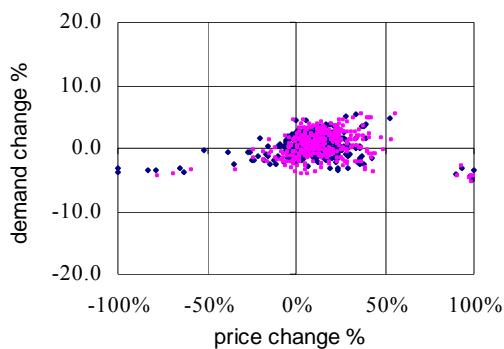


Figure 17: New South Wales

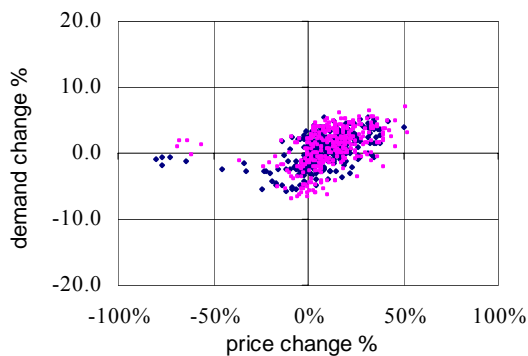


Figure 18: Victoria



Figure 19: South Australia

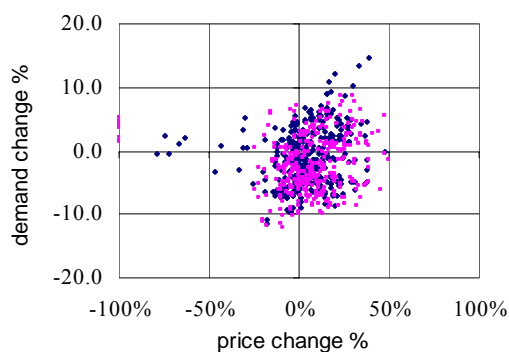


Figure 20: Tasmania

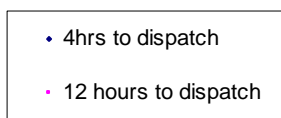
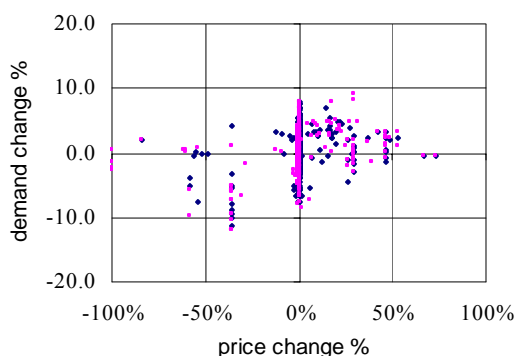
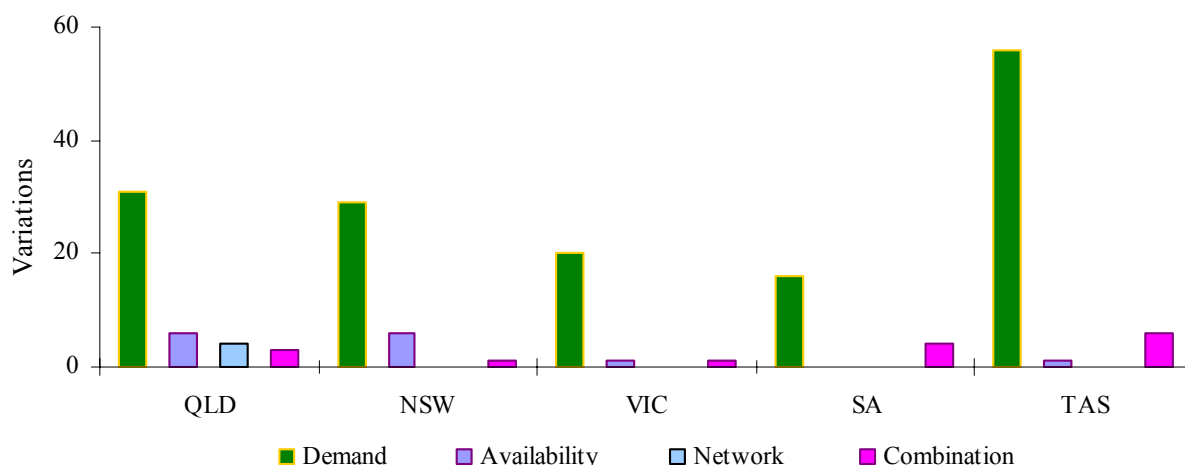


Figure 21 summarises the number and most probable reason for variations between forecast and actual prices.

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.

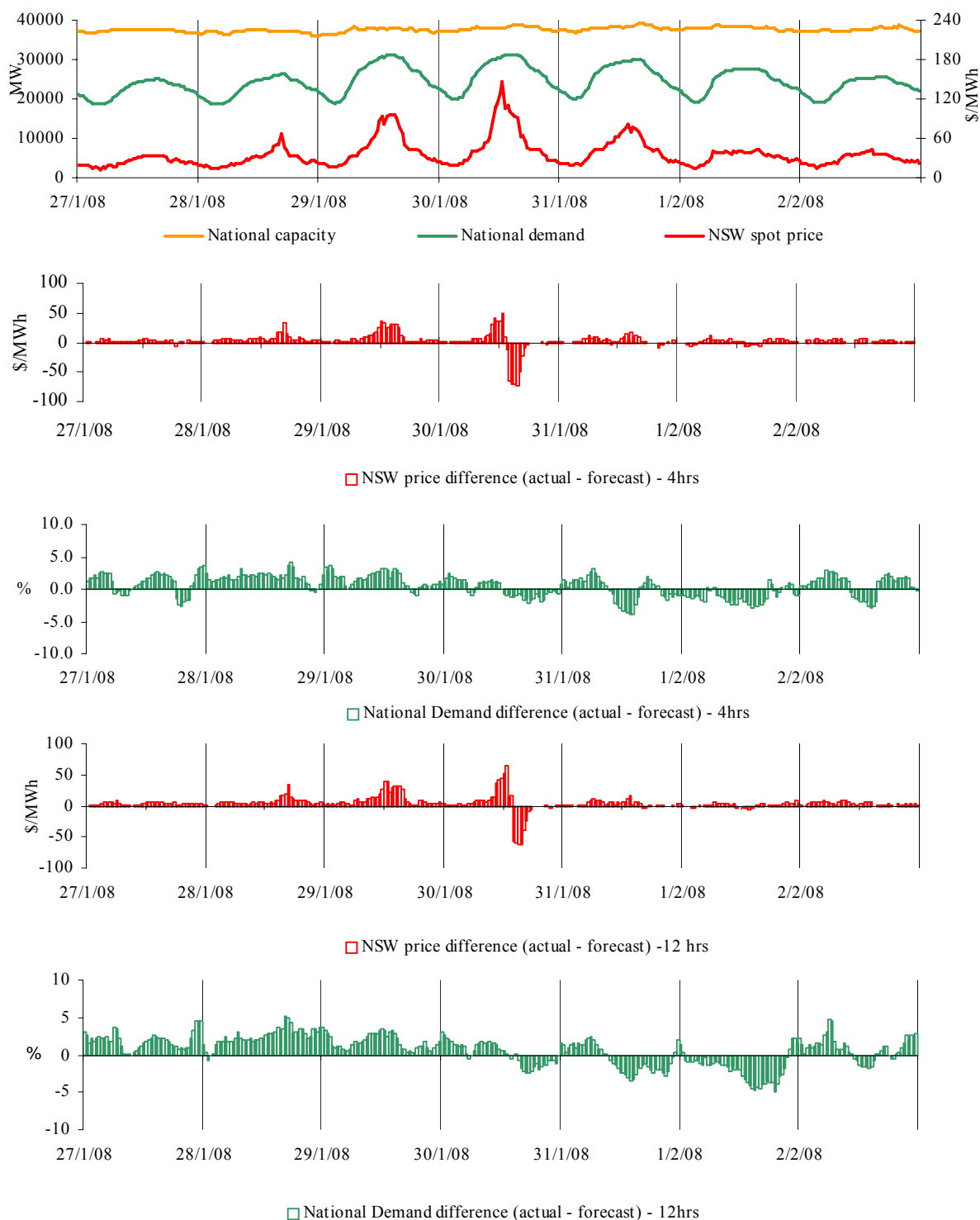
On a regional basis the differences between the maximum temperature and the temperature forecast at around 6.00 pm the day before are also included.

In each section, all prices for the week greater than three times the average have been presented. This threshold is used to filter the material price outcomes for the week. The actual price, demand and generator availability is compared with the forecasts made 4 and 12 hours ahead, with significant changes to these forecasts explained.

National Market

Spot prices within the national market are regularly aligned with conditions in one region reflected across all others. Figures 22-26 shows 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 as a proxy national price under these conditions as New South Wales is located in the centre of the NEM.

Figures 22-26: National market outcomes

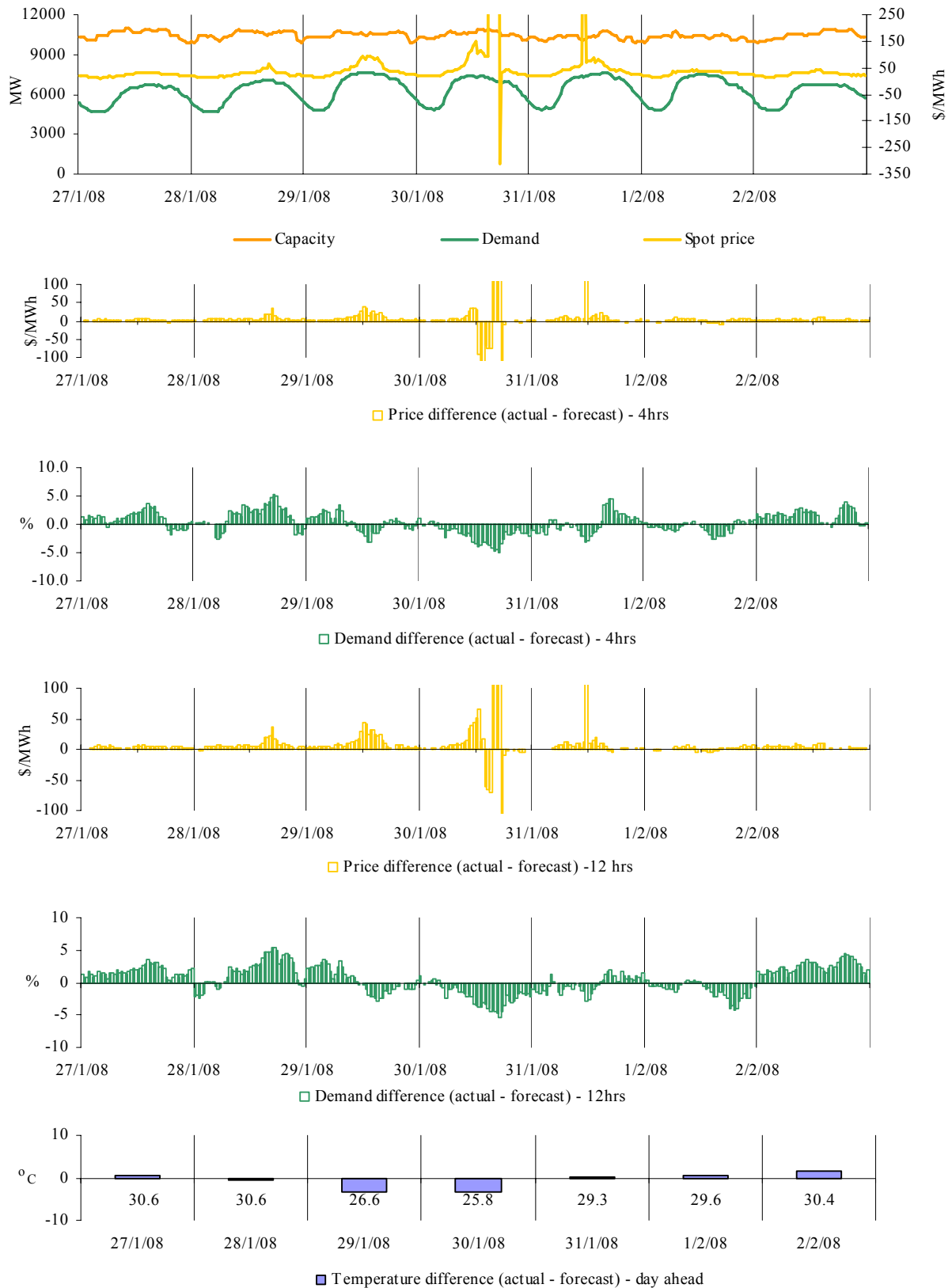


There was no occasion where the spot price aligned nationally and the New South Wales price was greater than three times the New South Wales weekly average price of \$39/MWh.

Queensland

Figures 27-32 show spot market prices in Queensland over the week along with actual demand and differences between actual and forecast demand and prices.

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



There were five occasions where the spot price in Queensland was greater than three times the Queensland weekly average price of \$103/MWh.

Wednesday, 30 January

4:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	1741.77	175.01	157.80
Demand (MW)	7208	7505	7523
Available capacity (MW)	10 835	10 831	10 955
4:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	9920.99	105.27	95.67
Demand (MW)	7156	7489	7483
Available capacity (MW)	10 806	10 833	10 910
5:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	3277.01	80.25	81.37
Demand (MW)	7091	7403	7423
Available capacity (MW)	10 807	10 821	10 898
5:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	4604.25	62.03	60.43
Demand (MW)	7005	7359	7378
Available capacity (MW)	10 731	10 749	10 822

Conditions at the time saw demand lower than forecast and available capacity close to forecast four hours ahead.

On the day, the capability of a number of transmission lines in Queensland was downgraded as a result of lightning. The AER will be issuing a detailed report into the circumstances of the day that led to the spot price exceeding \$5000/MWh in accordance with clause 3.13.7 of the Rules.

Thursday, 31 January

12:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	885.10	62.53	56.12
Demand (MW)	7306	7541	7508
Available capacity (MW)	10 117	10 819	10 899

Conditions at the time saw demand and available capacity lower than forecast four hours ahead.

At around 7 am CS Energy's Swanbank E tripped. The return to service was delayed over a number of rebids. This capacity was removed from the midday trading interval by a rebid at 11.02 am. This rebid reduced the availability by 311 MW to zero, all of which was priced below zero. The reason given was "Swan E GT load restriction".

At 10.38 am Callide Power Trader reduced the availability of its Callide C units by 230 MW. The reasons given were "No dust removal system" and "Support reason for other unit rebid".

At 11.01 am Stanwell extended a previous rebid that reduced the availability of Gladstone unit five by 140 MW, with 35 MW of this capacity priced below \$80/MWh. Over a number of rebids close to dispatch, 2150 MW of capacity was rebid across its portfolio from prices below \$10/MWh to above \$9000/MWh. These rebids were reversed at 11.44 am, after the price spike. The reason given was "Portfolio optimisation::change MW".

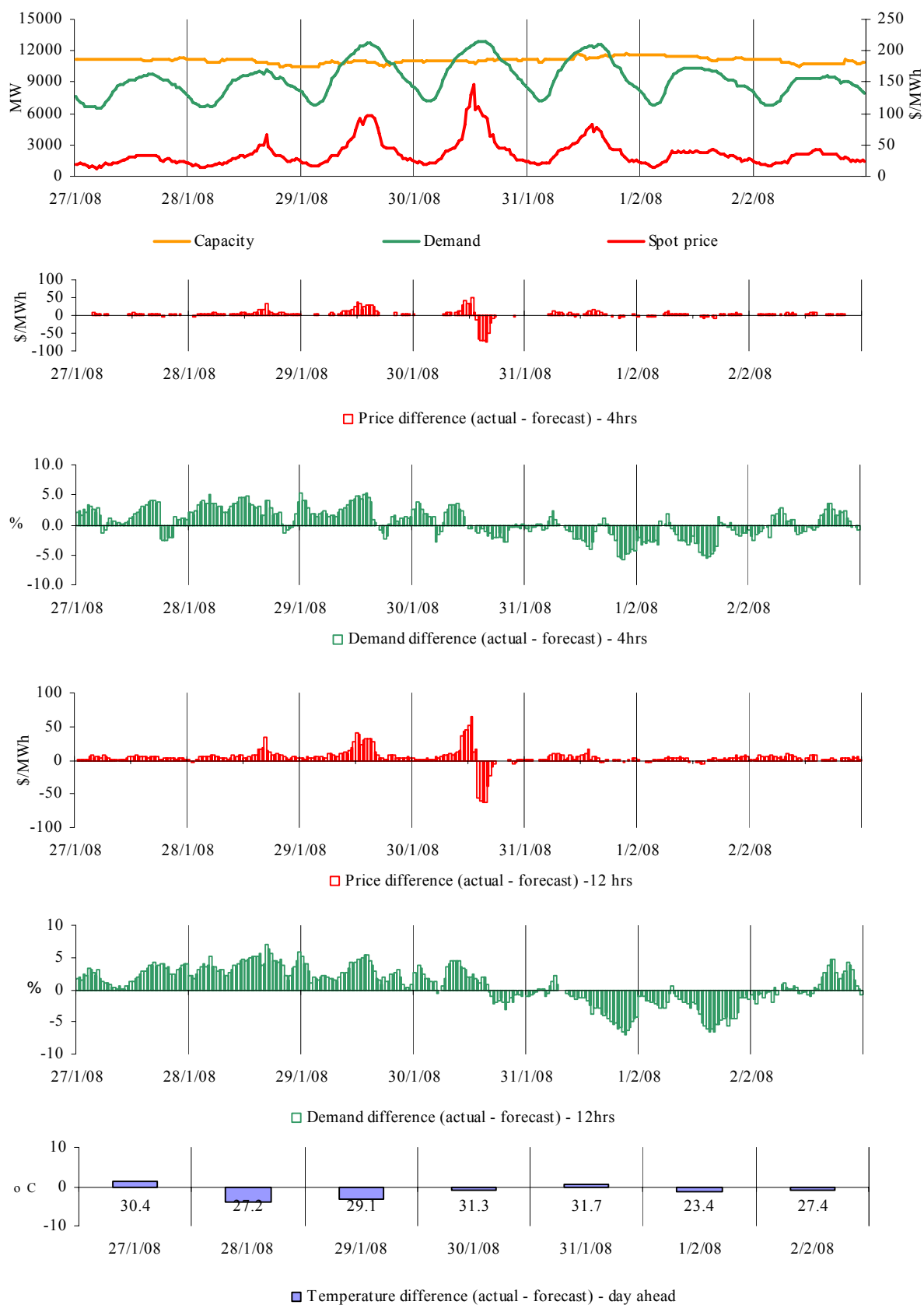
The 11.30 am the five-minute dispatch price was \$75/MWh. At 11.35 am, with a 40 MW increase in the demand, 3 MW of capacity at Tarong priced at \$4995/MWh was dispatched, setting price for this dispatch interval. At 11.40 am the demand dropped by 90 MW and prices returned to previous levels.

There was no other significant rebidding.

New South Wales

Figures 33-38 show spot market prices in New South Wales over the week along with actual demand and differences between actual and forecast demand and prices.

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



There were two occasions where the spot price in New South Wales was greater than three times the New South Wales weekly average price of \$39/MWh.

Wednesday, 30 January

12:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	129.20	94.51	77.48
Demand (MW)	12 434	12 513	12 177
Available capacity (MW)	10 872	11 329	11 329
1:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	146.38	96.23	82.00
Demand (MW)	12 636	12 711	12 334
Available capacity (MW)	10 899	11 329	11 329

Conditions at the time saw demand close to that forecast and available capacity 460 MW lower than that forecast.

At 9.53 am Macquarie Generation reduced availability at Liddell units three and four by 160 MW and shifted 350 MW of capacity across its other units from prices below \$90/MWh to above \$140/MWh. The reasons given were “Manage constraints and load forecast change” and “Milling limit extended”.

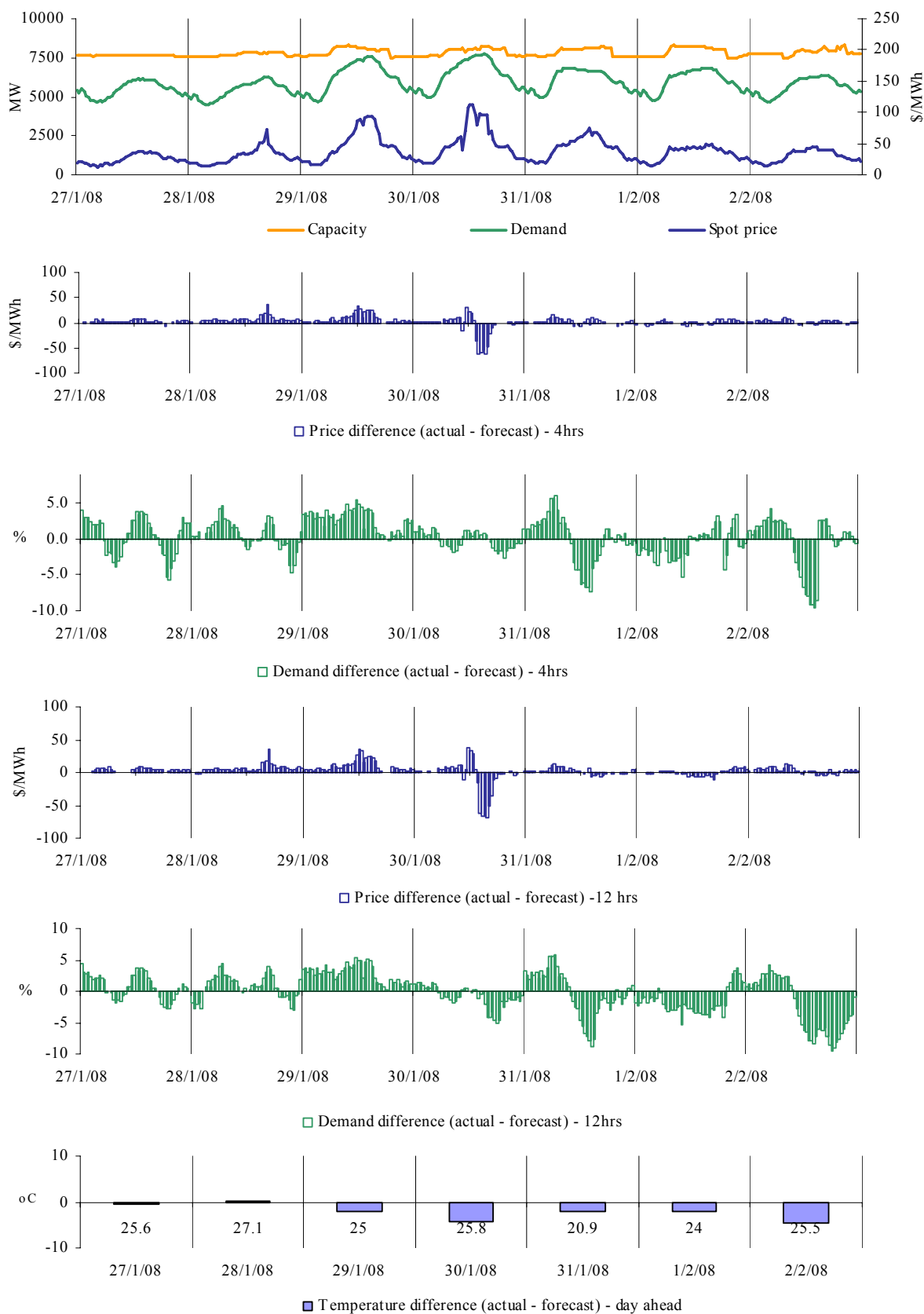
At 10.39 am Delta Electricity reduced the availability of Vales Point unit five by 180 MW all of which was priced below \$20/MWh. The reason given was “Milling capacity::capacity limit change”.

There was no other significant rebidding.

Victoria

Figures 39-44 show spot market prices in Victoria over the week along with actual demand and differences between actual and forecast demand and prices.

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

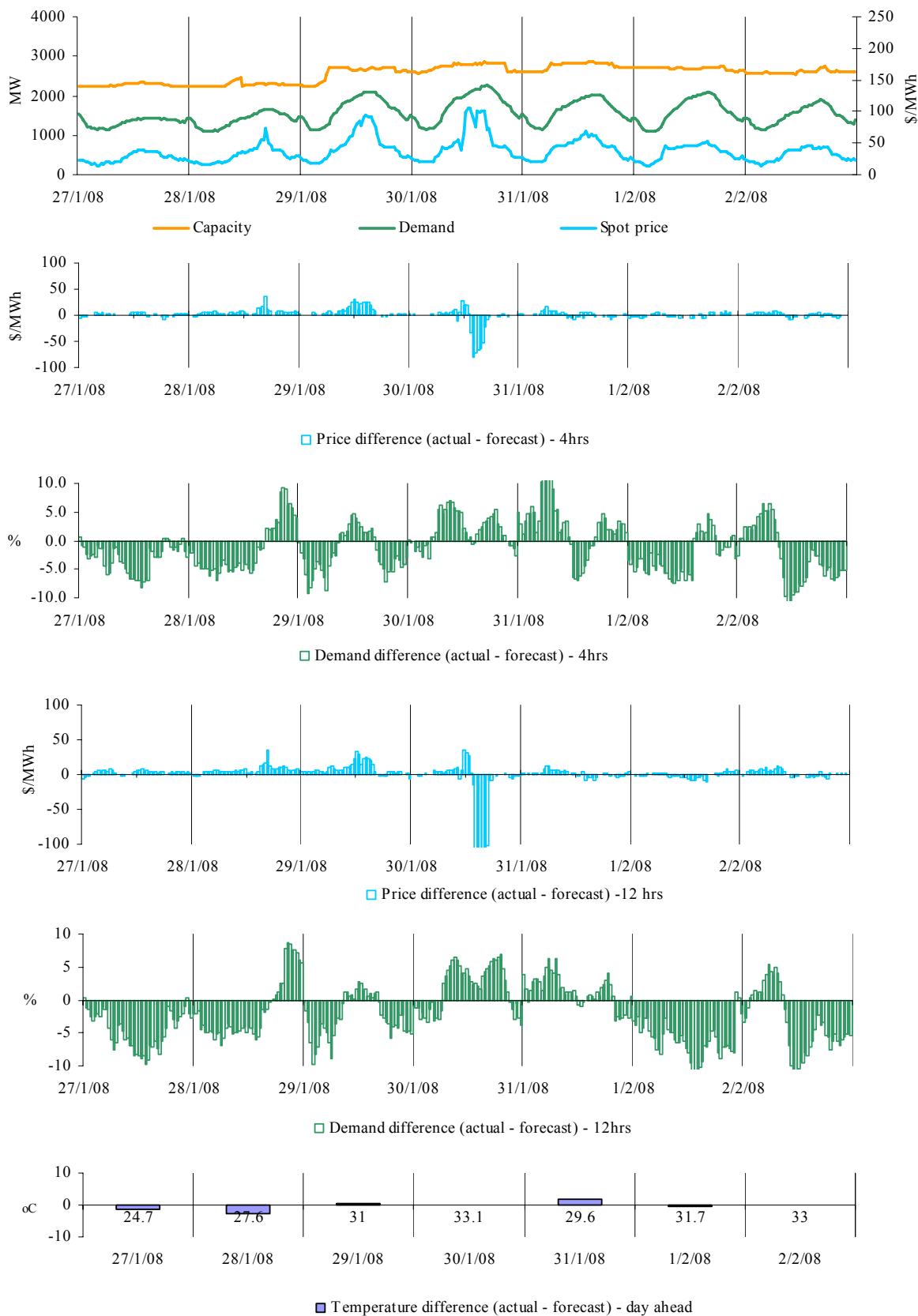


There was no occasion where the spot price in Victoria was greater than three times the Victoria weekly average price of \$39/MWh.

South Australia

Figures 45-50 show spot market prices in South Australia over the week along with actual demand and differences between actual and forecast demand and prices.

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

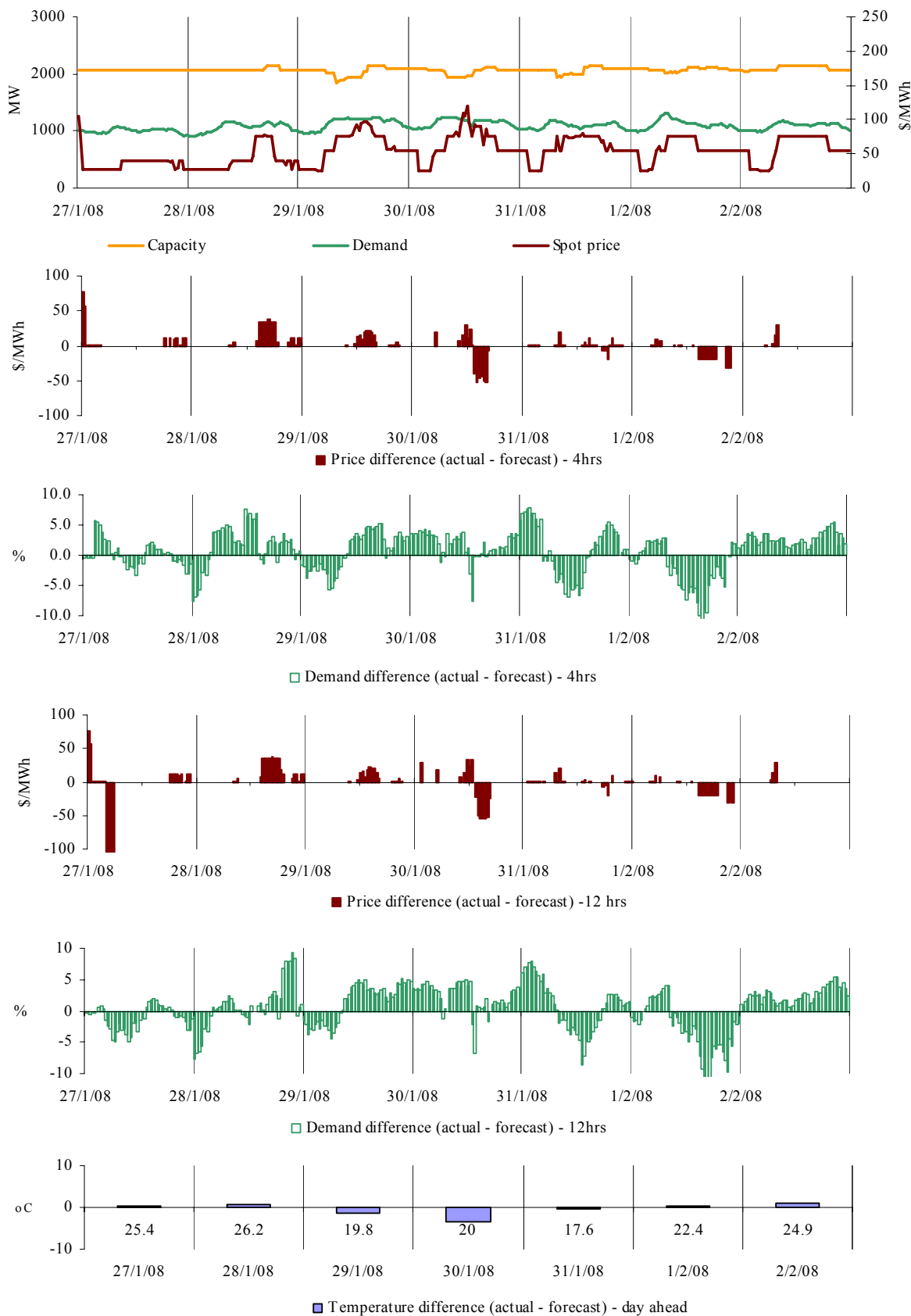


There was no occasion where the spot price in South Australia was greater than three times the South Australia weekly average price of \$40/MWh.

Tasmania

Figures 51-56 show spot market prices in Tasmania over the week along with actual demand and differences between actual and forecast demand and prices.

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



There was no occasion where the spot price in Tasmania was greater than three times the Tasmania weekly average price of \$55/MWh.

Bidding patterns

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

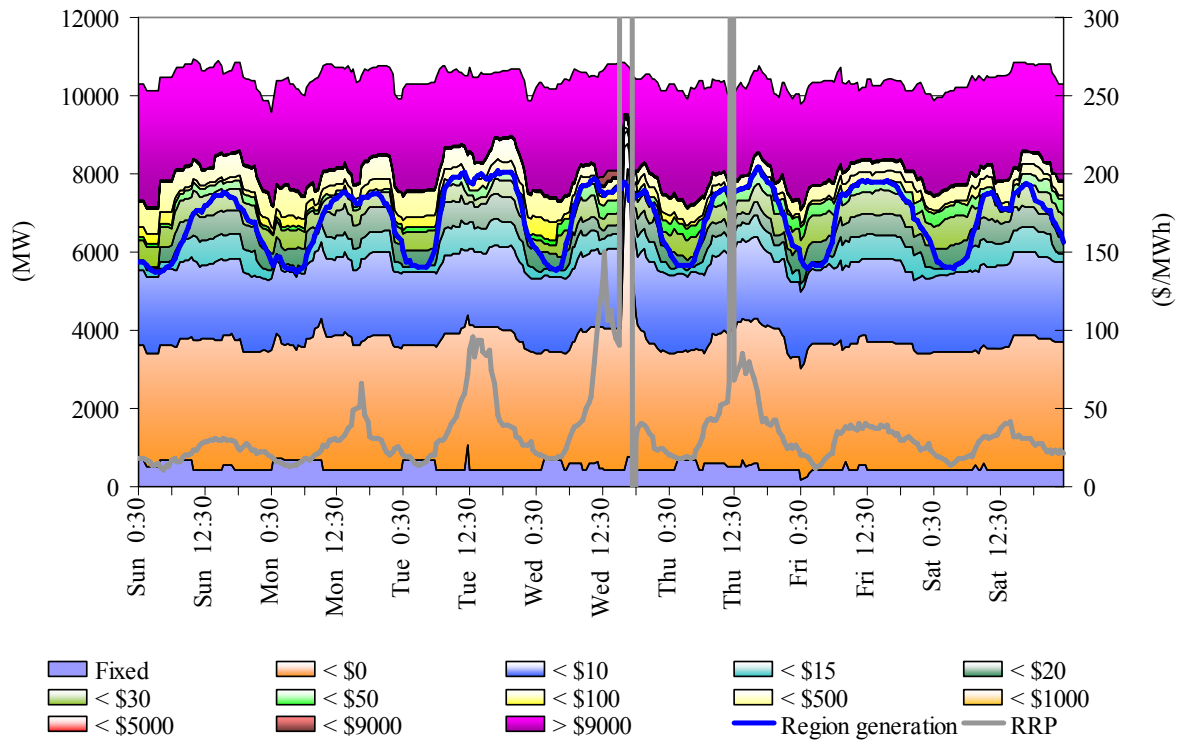


Figure 58: New South Wales closing bid prices, dispatched generation and spot price

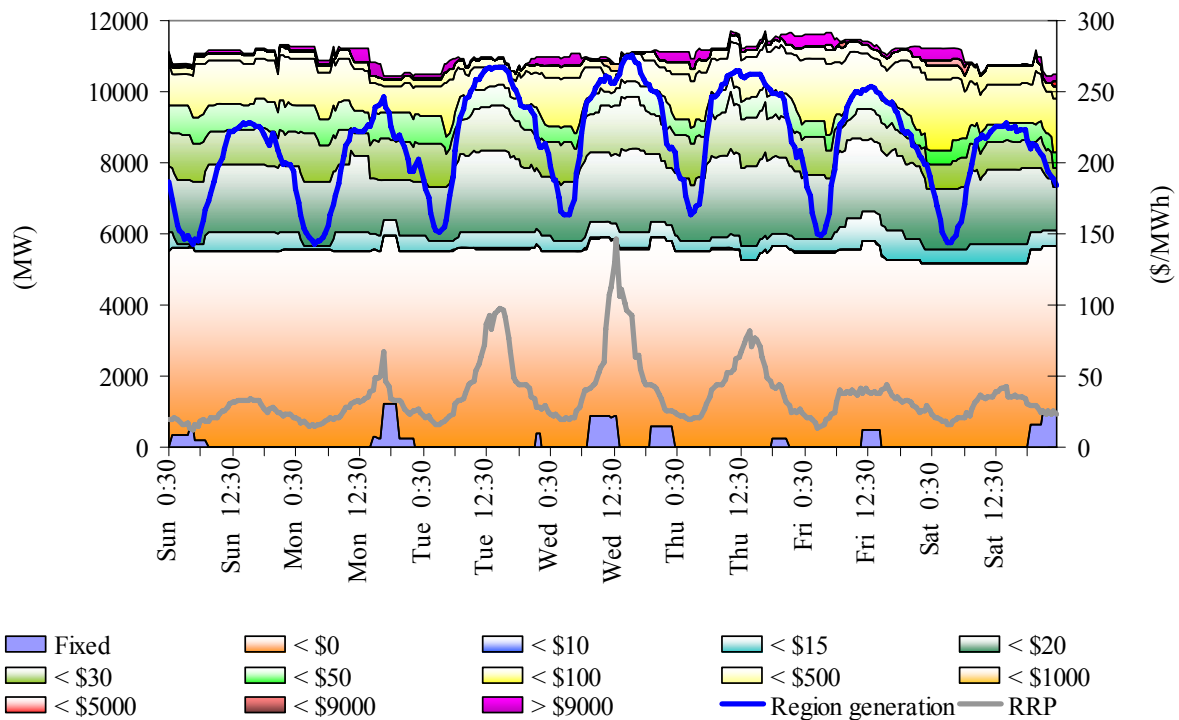


Figure 59: Victoria closing bid prices, dispatched generation and spot price

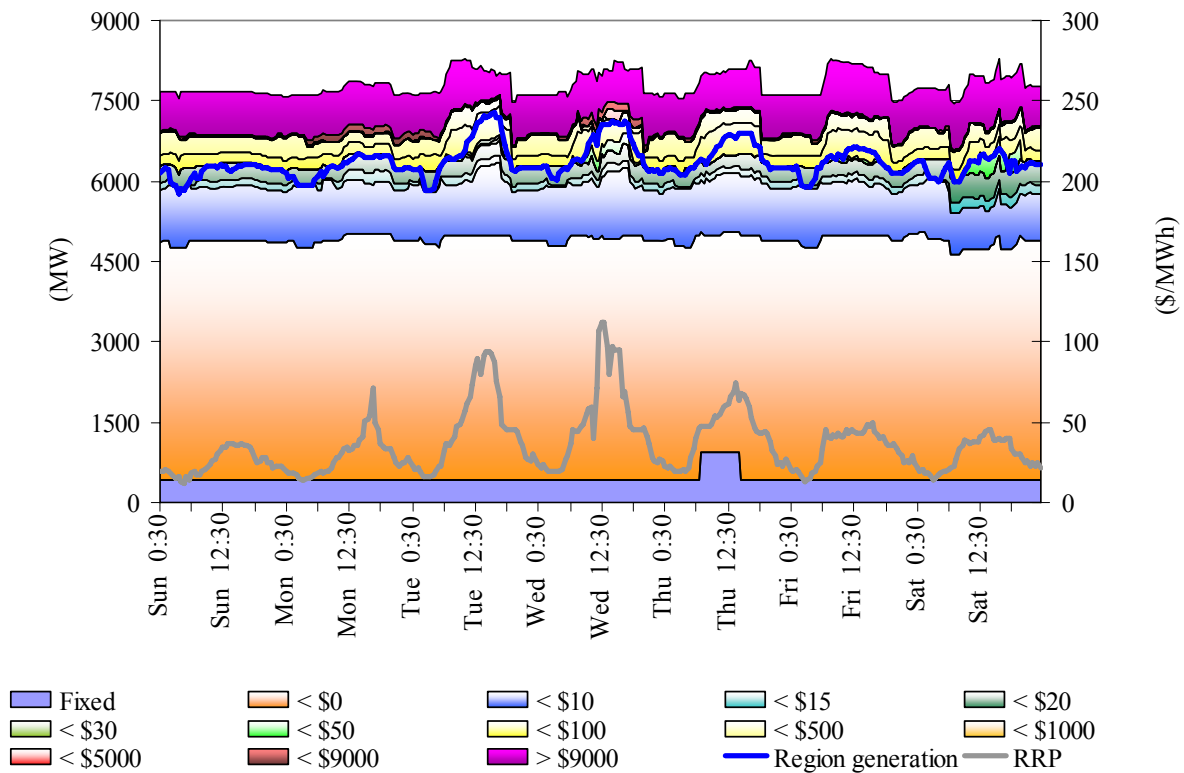


Figure 60: South Australia closing bid prices, dispatched generation and spot price

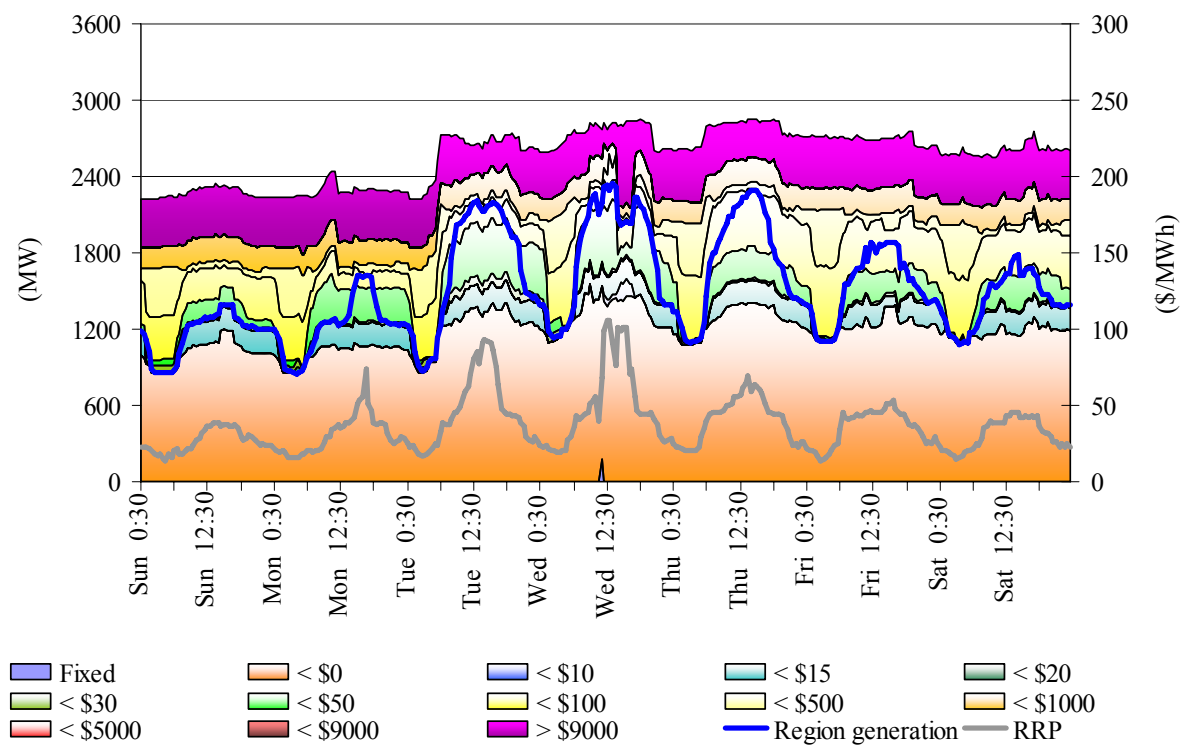
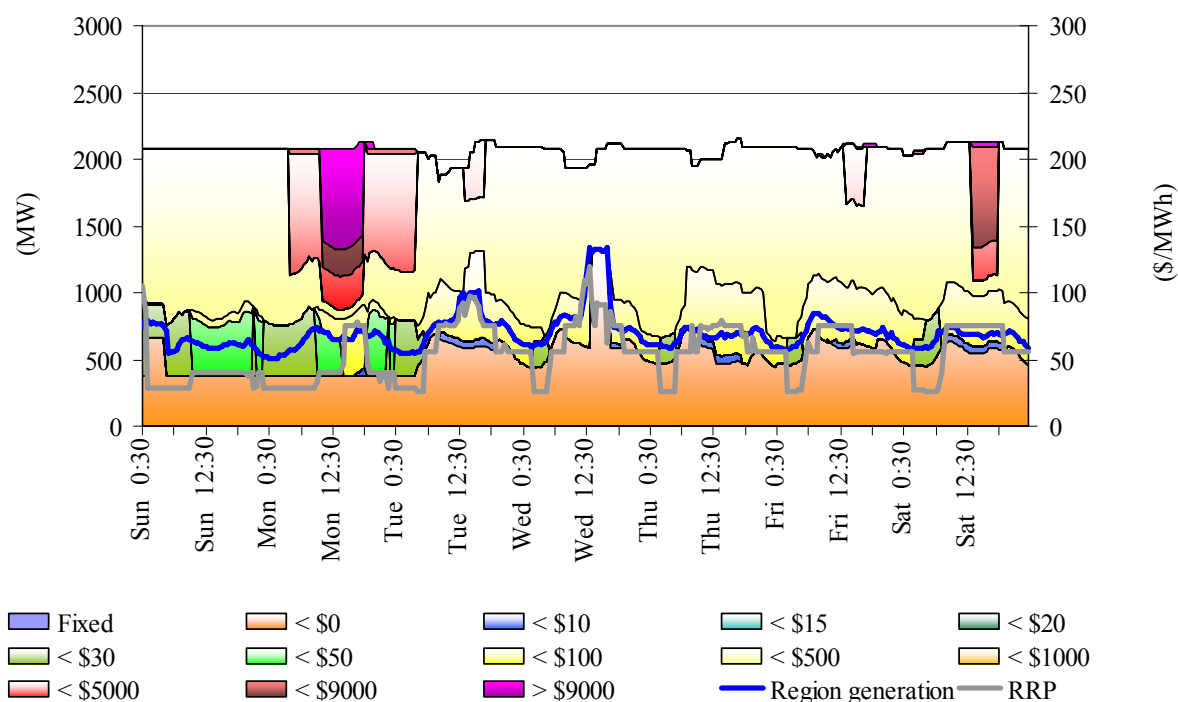


Figure 61: Tasmania closing bid prices, dispatched generation and spot price



Ancillary service market

The total cost of ancillary services on the mainland for the week was \$248 000 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.

On Wednesday evening the price of lower 6 second and lower 5 minute services reached \$1000/MW in Queensland when the Bulli Creek to Dumaresq lines were reclassified as a credible contingency. During this reclassification, Queensland was required to source services locally.

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)	1.14	0.36	1.05	1.01	11.00	0.28	1.18	2.11
Previous week (\$/MW)	1.39	0.58	1.55	1.19	0.16	0.23	0.50	2.45
Last quarter (\$/MW)	3.43	0.83	2.05	6.07	0.06	0.14	0.48	1.84
Market Cost (\$1000s)	\$48	\$10	\$61	\$22	\$45	\$4	\$25	\$34
% of energy market	0.02%	0.01%	0.03%	0.01%	0.02%	0.01%	0.01%	0.02%

The total cost of ancillary services in Tasmania for the week was \$72 000 or 0.7 per cent of the turnover in the Tasmanian energy market. 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)	3.07	0.45	2.33	1.91	0.94	0.16	0.02	2.05
Previous week (\$/MW)	6.75	1.66	21.93	1.99	0.50	0.03	0.02	2.46
Last quarter (\$/MW)	9.36	1.98	3.68	5.15	9.32	1.87	1.58	1.52
Market Cost (\$1000s)	\$15	\$9	\$38	\$1	\$0	\$0	\$0	\$8
% of energy market	0.15%	0.09%	0.37%	0.01%	0.01%	0.01%	0.01%	0.08%

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

Figure 64: daily frequency control ancillary service cost

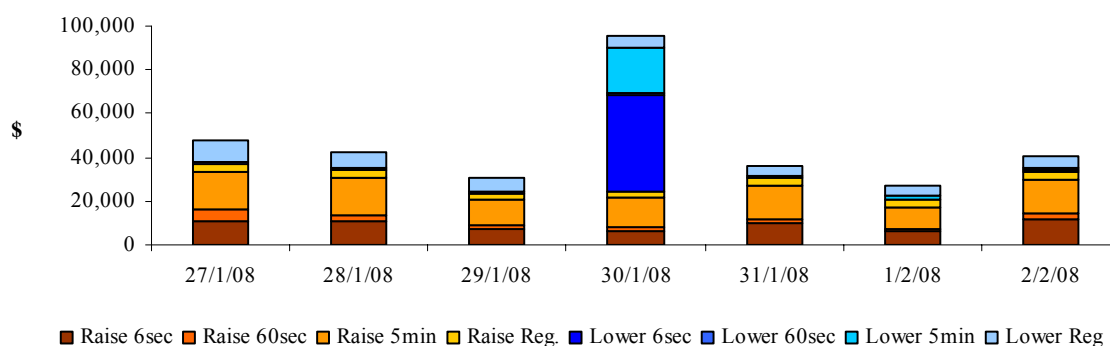
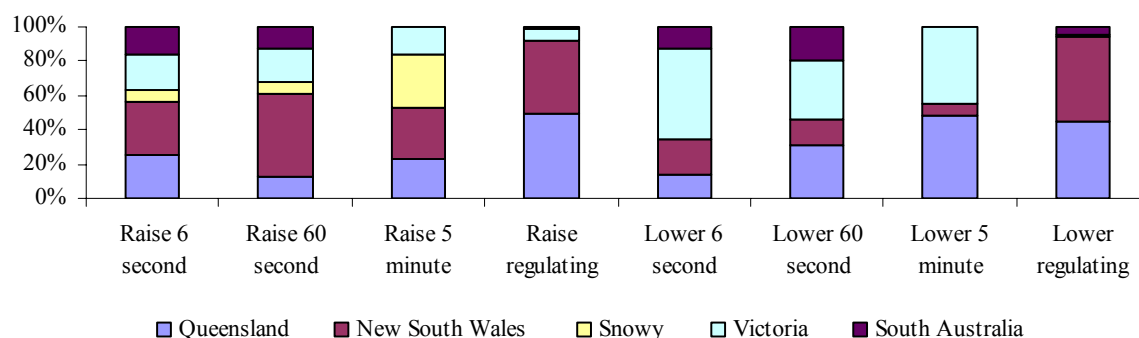


Figure 65 shows the contribution, on a percentage basis, that frequency control ancillary service providers are utilised (in each mainland region) to satisfy the total requirement for each service.

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

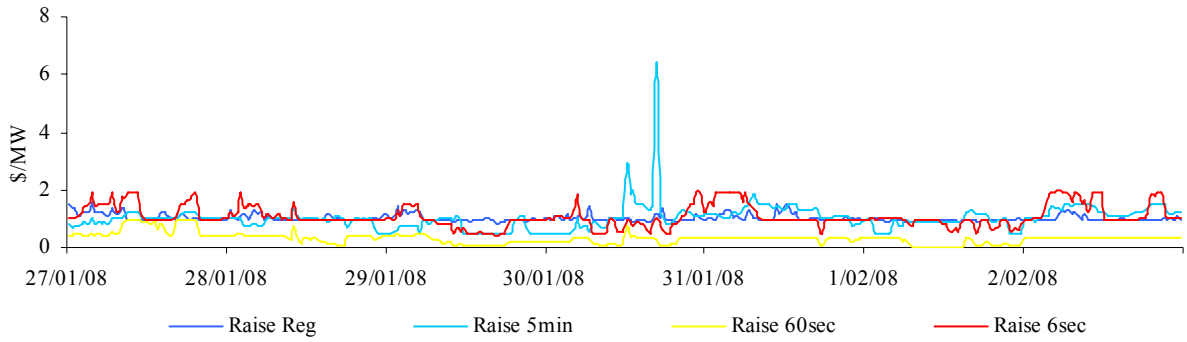


Figure 66A: prices for raise services – Tasmania

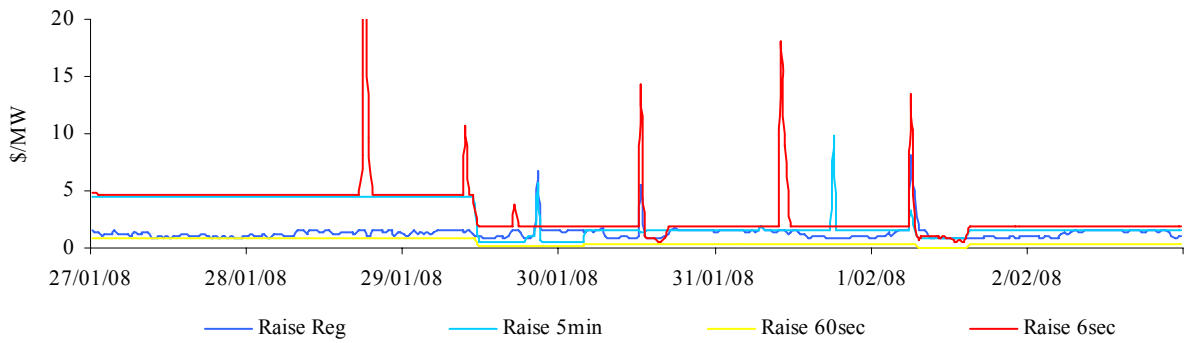


Figure 67: prices for lower services

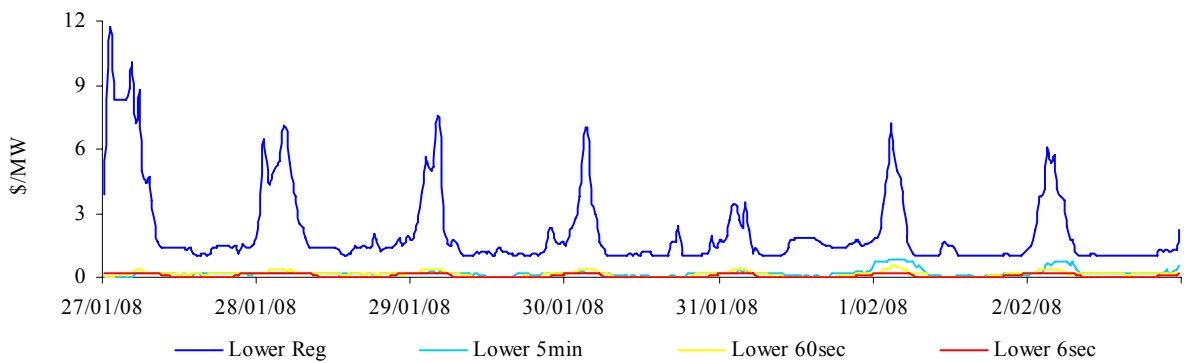
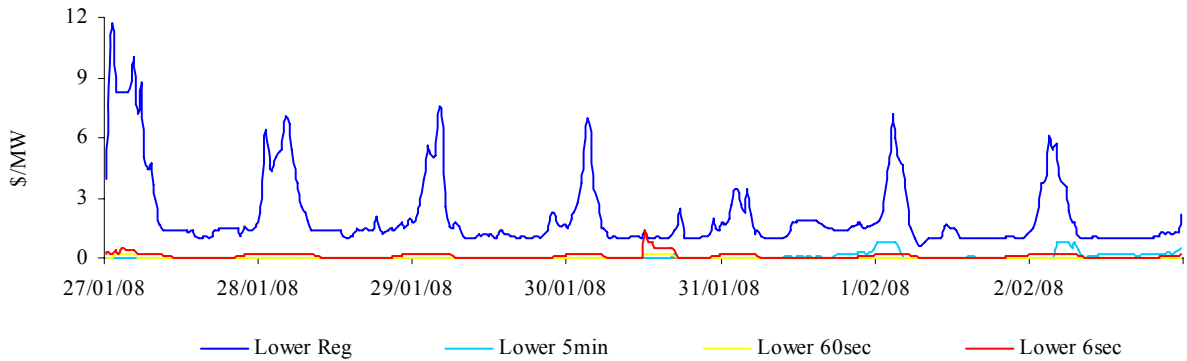


Figure 67A: prices for lower services – Tasmania



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

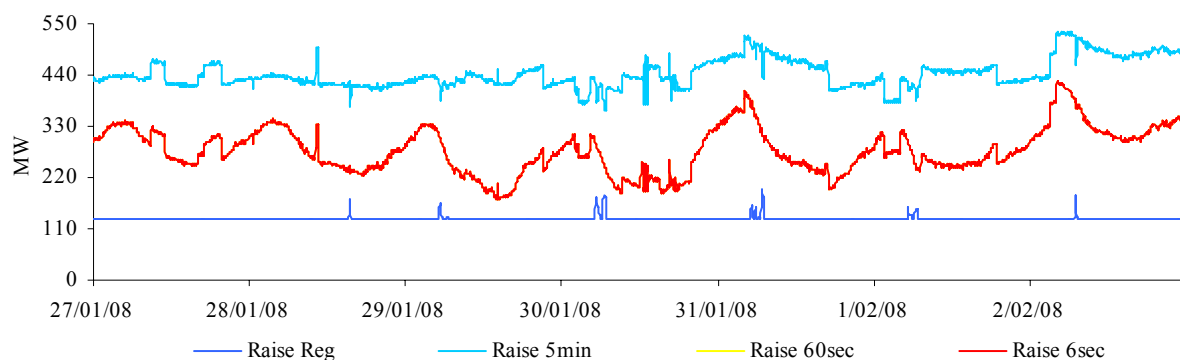


Figure 68A: raise requirements – Tasmania

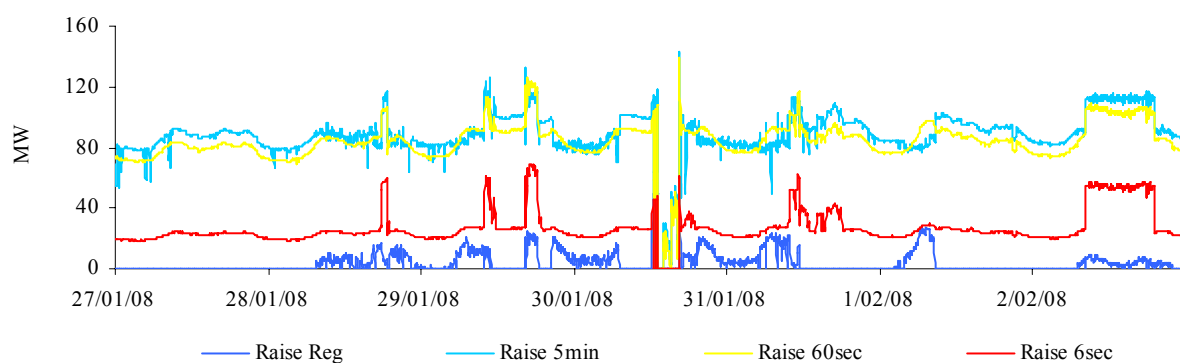


Figure 69: lower requirements

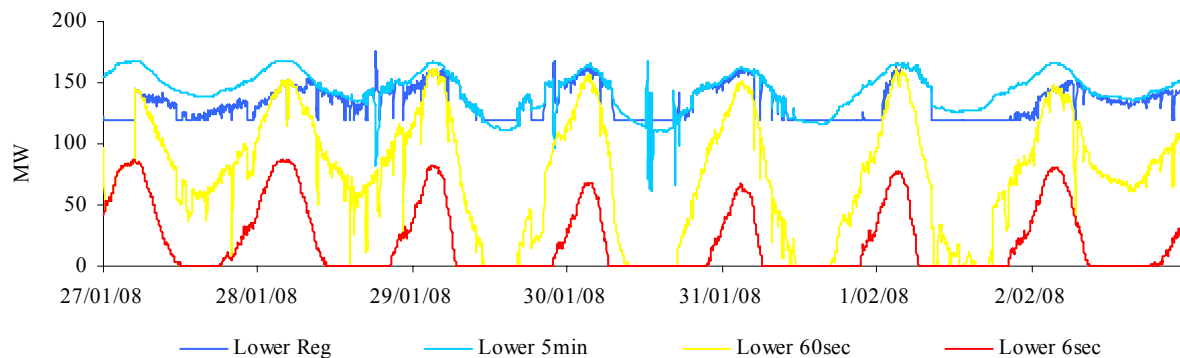


Figure 69A: lower requirements – Tasmania

