Market analysis

10 June – 16 June 2007

Summary

Spot prices on the mainland for the week averaged between $89/MWh in South Australia and $417/MWh in New South Wales. Prices in New South Wales exceeded $5000/MWh during the evening peak on five consecutive days. The high prices flowed through to Queensland and the Snowy region where prices also exceeded $5000/MWh on five consecutive days. National and regional demand was high throughout the week, consistent with winter conditions. Flooding in the Hunter Valley affecting coal supplies, and planned and unplanned generator outages restricted the availability of some generators. Bidding strategies to price capacity into higher prices during the peak period of the day, particularly by Macquarie Generation, continued. These factors combined with the ongoing impacts of the drought, in Snowy and south east Queensland in particular, to drive the increase in spot prices. The spot price in Tasmania averaged just $13/MWh as a result of negative prices that coincided with the extreme prices on the mainland.

The AER has published a separate report which provides a detailed analysis of the $5000/MWh events in June and the causes of the high prices.

Turnover in the energy market in the week ended 16 June was $1.15 billion, the highest since market start. The total cost of ancillary services for the week was $657 000, or 0.06 per cent of energy market turnover.

Significant variations between actual prices and those forecast 4 and 12 hours ahead occurred in 246 instances or three quarters of 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 Tasmania occurring in 40 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

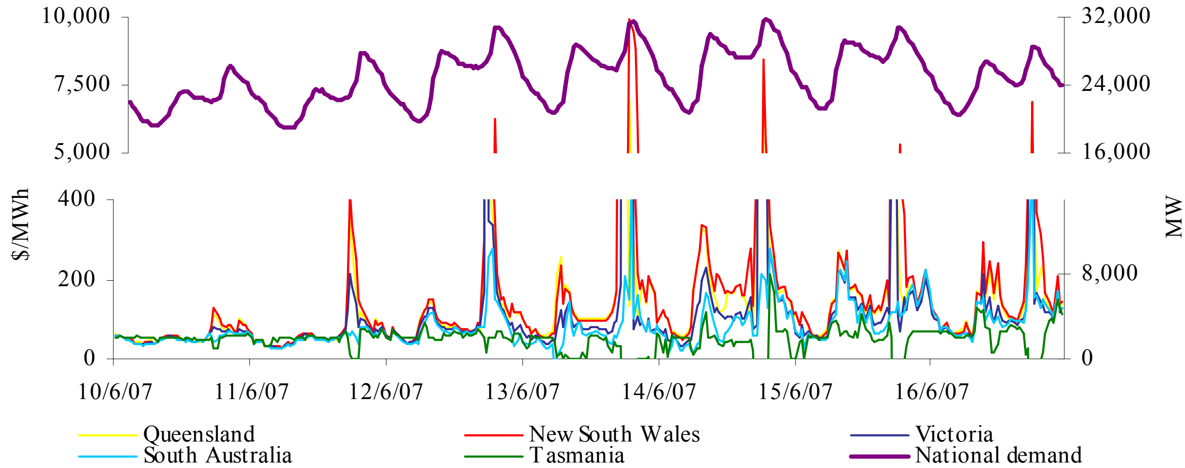


Figure 2: volume weighted average spot price for energy market ($/MWh)

	QLD	NSW	VIC	SA	TAS
Last week	255	417	179	89	13
Previous week	74	77	64	59	49
Same quarter last year	25	28	30	38	38
Financial year to date	44	48	52	54	48
% change from previous week *	▲244%	▲444%	▲181%	▲51%	▼74%
% change from same quarter last year **	▲927%	▲1404%	▲496%	▲135%	▼66%
% change from year to date ***	▼9%	▼14%	▼5%	▼1%	▲2%

*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

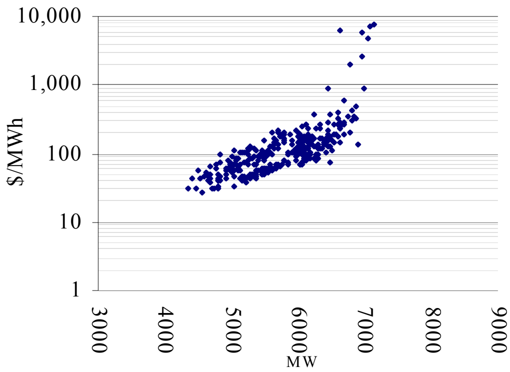


Figure 4: New South Wales

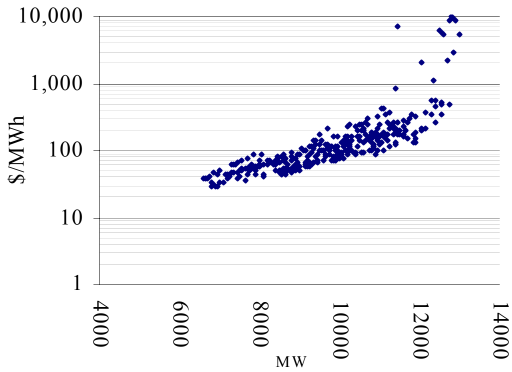


Figure 5: Victoria

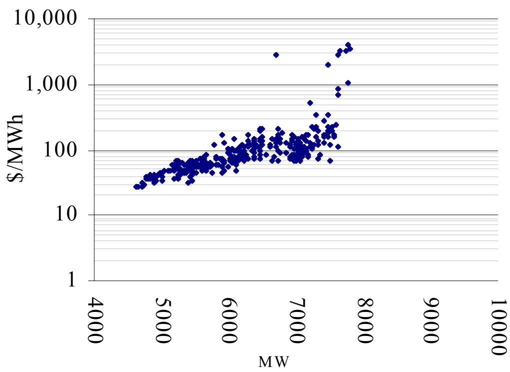


Figure 6: South Australia

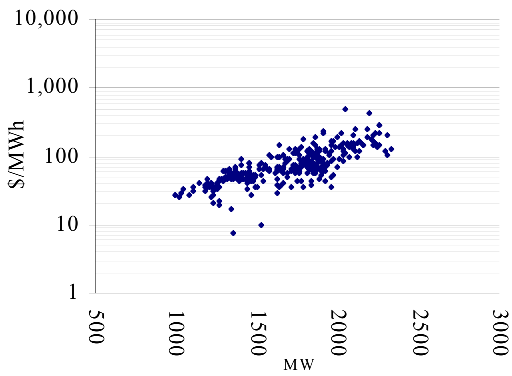
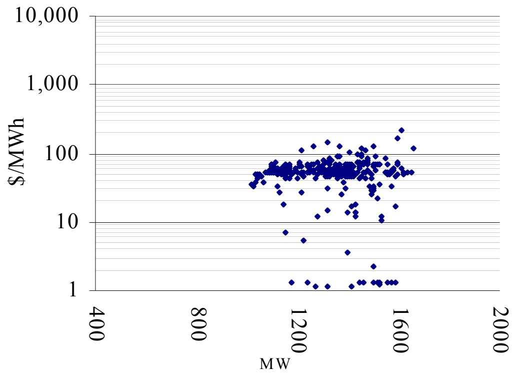


Figure 7: Tasmania



Maximum spot prices for the week ranged from $216/MWh in Tasmania to a record high of $9936/MWh in New South Wales. Figure 8 compares the weekly price volatility index with the averages for the previous week and the same quarter last year. It highlights the increase in spot price volatility.

Figure 8: volatility index during peak periods

	QLD	NSW	VIC	SA	TAS
Last week	1.53	1.85	1.31	1.33	1.30
Previous week	0.70	0.81	0.58	0.46	0.38
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

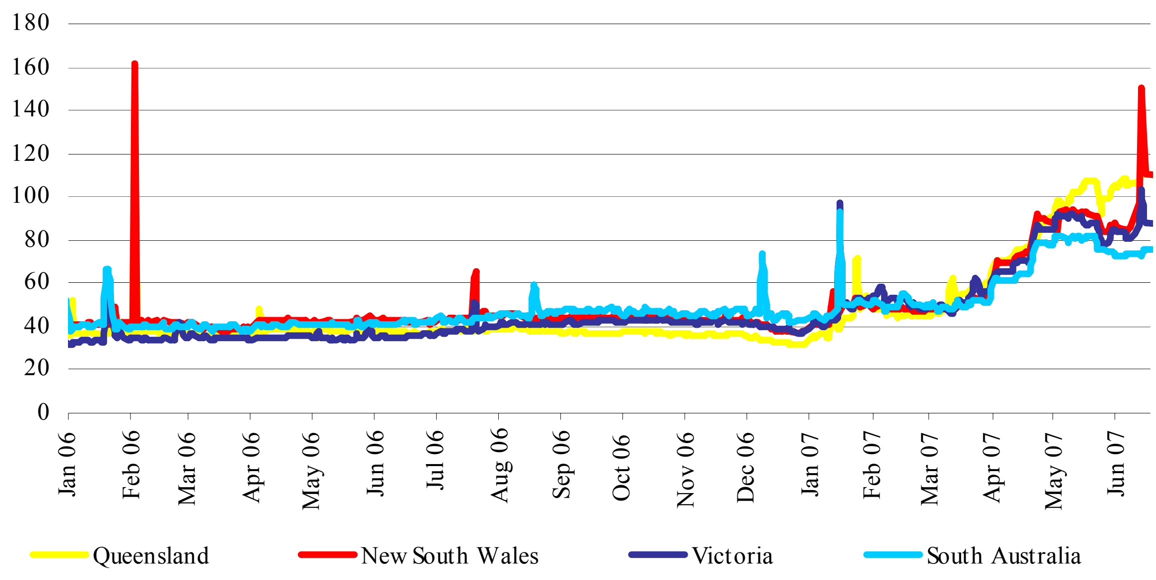
Figure 9 sets out the d-cyphaTrade wholesale electricity price index (WEPI)* for each region throughout the week excluding Tasmania. Figure 10 sets out the WEPI since 1 January 2005.

Figure 9: d-cyphaTrade WEPI for the week

	Monday	Tuesday	Wednesday	Thursday	Friday
Queensland	N/A	107.05	112.22	115.27	110.22
New South Wales	N/A	96.76	150.56	128.44	110.90
Victoria	N/A	86.61	103.17	92.59	87.74
South Australia	N/A	73.37	72.44	74.80	75.92

* 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

There were three periods of low reserves forecast for New South Wales. These occurred on Wednesday, Thursday and Friday evening.

Imports at time of maximum demand

Figures 11 to 14 show spot price, net imports and limits at the time of weekly maximum demand.

Figure 11: Queensland

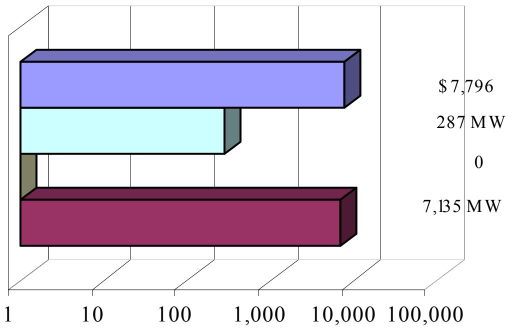


Figure 12: New South Wales

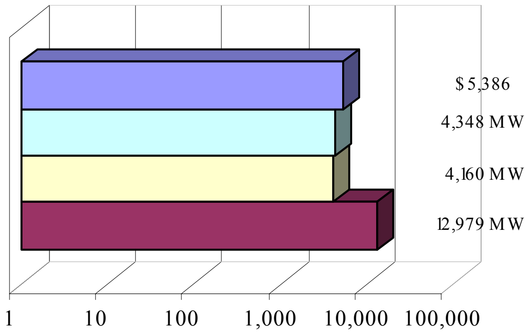


Figure 13: Victoria

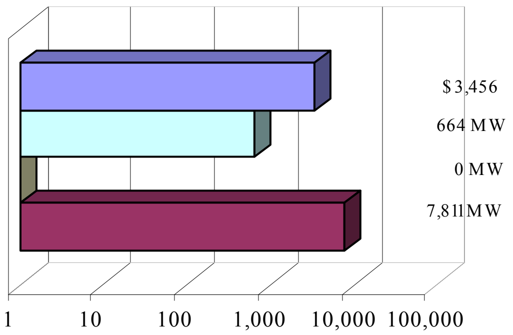


Figure 14: South Australia

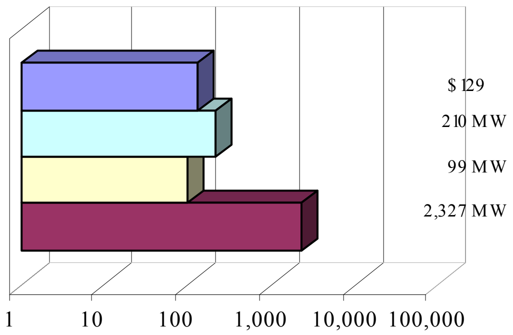
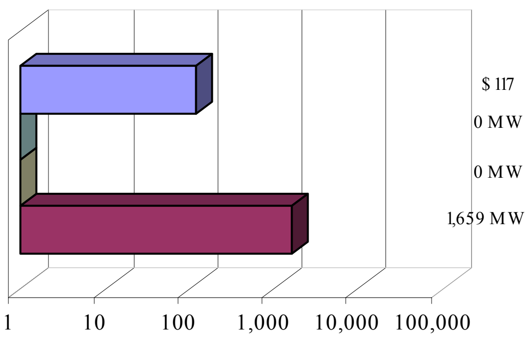
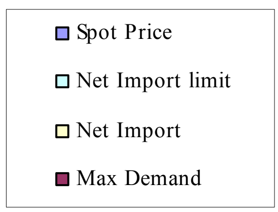


Figure 15: Tasmania





Price variations

There were 246 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

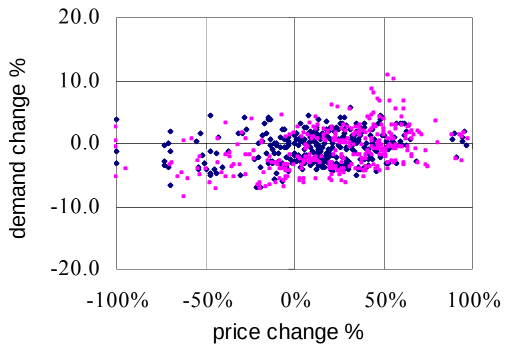


Figure 17: New South Wales

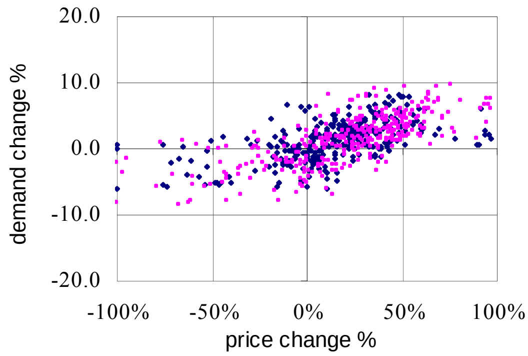


Figure 18: Victoria

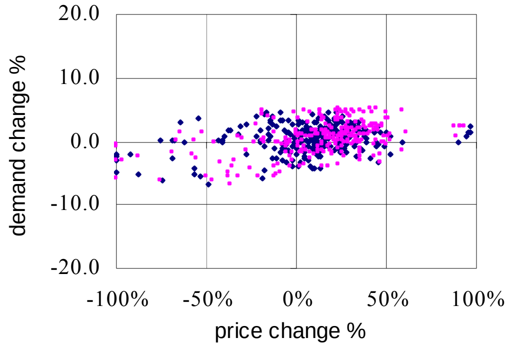


Figure 19: South Australia

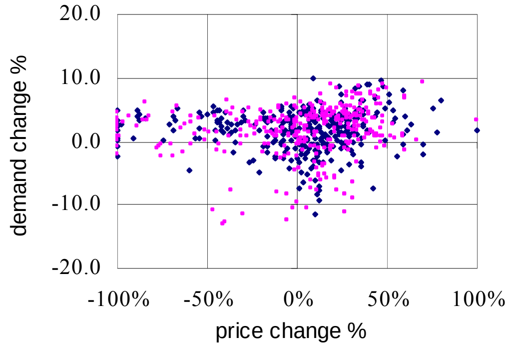
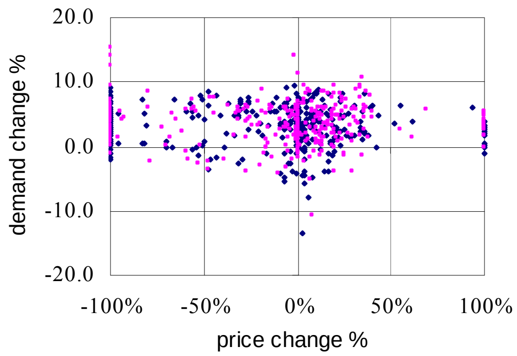


Figure 20: Tasmania



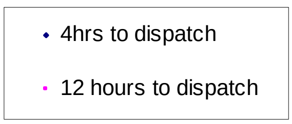
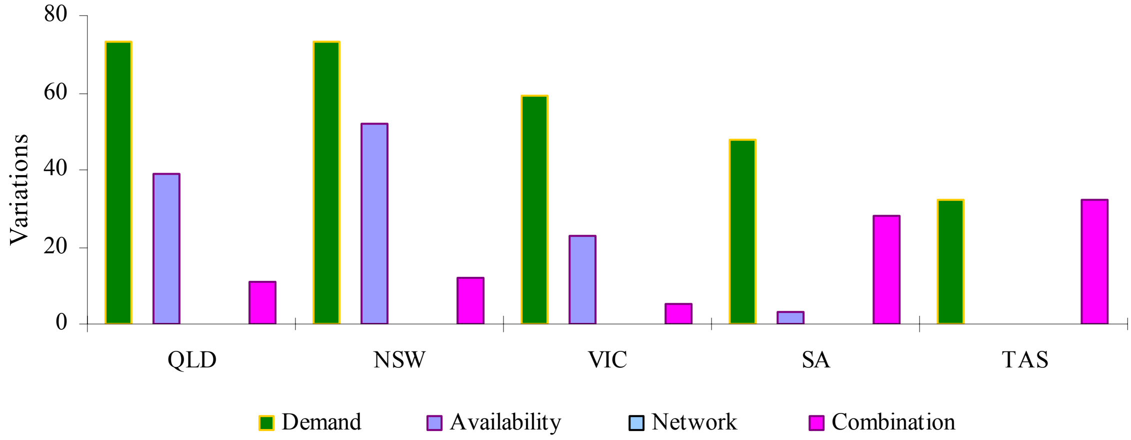


Figure 21 summarises the number and most probable reason for variations between forecast and actual prices.

Figure 21: reasons for variations between forecast and actual prices



Price and demand

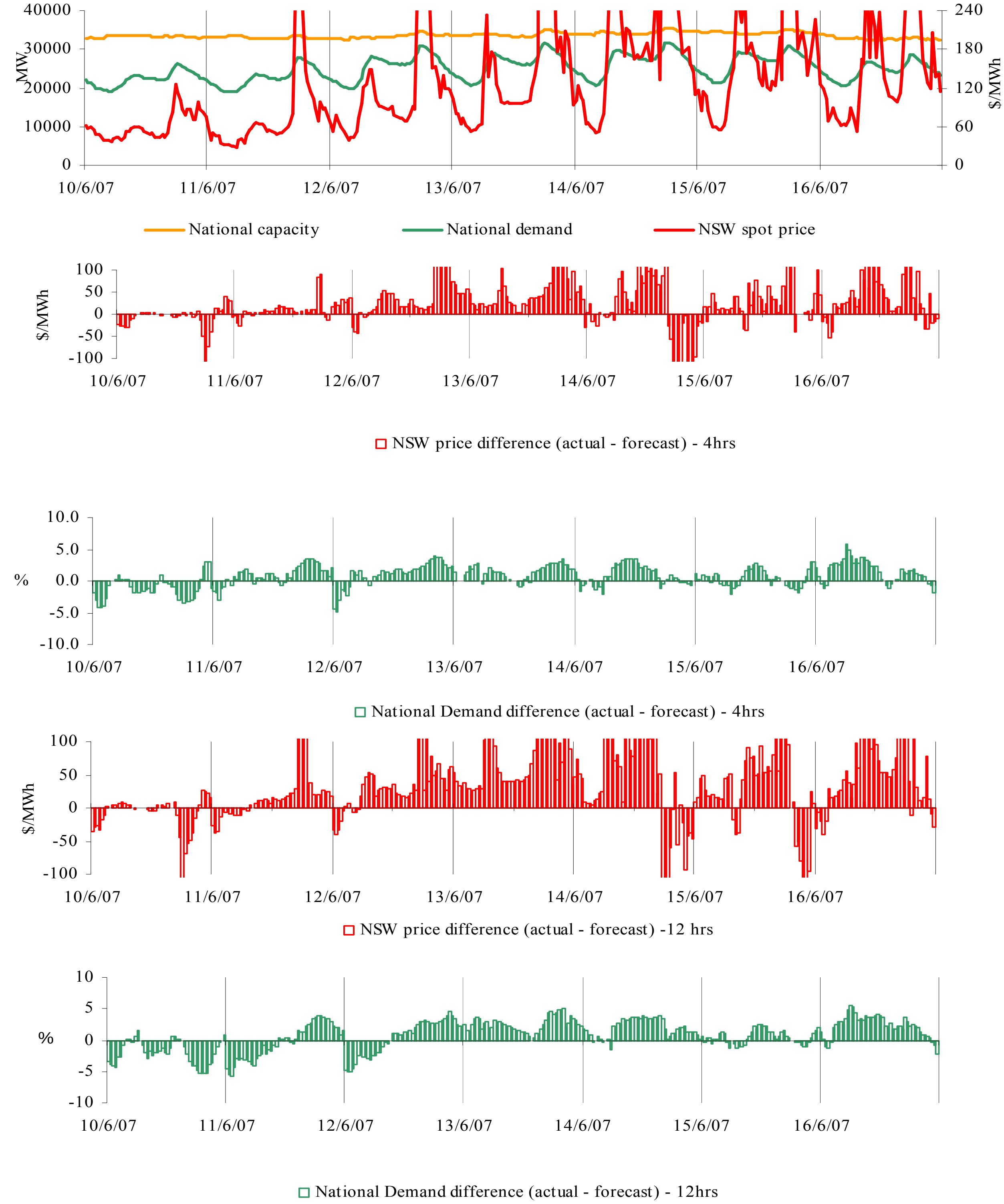
Figures 22 – 56 set out details of spot prices and demand on a national and regional basis. They include the actual spot price, actual demand and variation from forecasts made 4 and 12 hours ahead of dispatch. On a regional basis the differences between the maximum temperature and the temperature forecast at around 6.00 pm the day before are also included.

In each section, the occurrences of 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

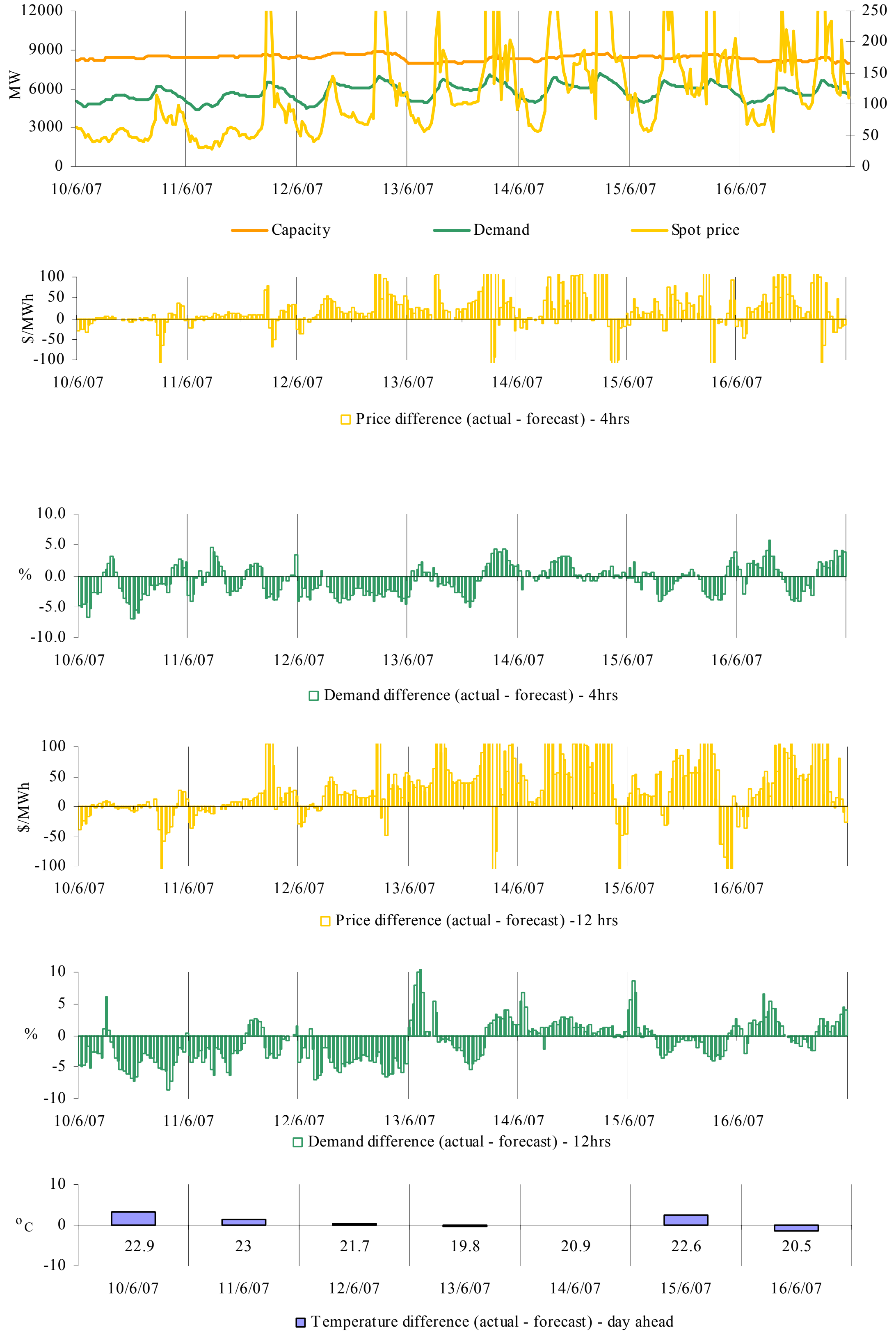


There was no occasion where spot prices were nationally aligned and the New South Wales price was greater than three times the New South Wales weekly average price of $417/MWh.

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 nine occasions where the spot price in Queensland was greater than three times the weekly average price of $255/MWh.

Tuesday, 12 June

6:00 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	5697.11	481.36	484.75
Demand (MW)	6952	7113	7133
Available capacity (MW)	8890	8888	9016

Conditions at the time saw demand and available capacity close to forecast. Prices followed those in New South Wales. Flows to New South Wales were close to its nominal limit.

A network constraint from central into southern Queensland resulted in generation in central Queensland being reduced.

From 3.11 pm and over several rebids Origin Energy rebid 358 MW of capacity across its portfolio from prices above $9000/MWh to below $300/MWh. The rebid reasons given were “Change in PDS” and “Constraint management”.

There was no other significant rebidding.

Wednesday, 13 June

5:30 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	1934.08	195.04	132.27
Demand (MW)	6766	6659	6683
Available capacity (MW)	8238	8545	8489
6:00 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	6951.18	299.16	303.5
Demand (MW)	7089	6945	6967
Available capacity (MW)	8397	8547	8490
6:30 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	881.57	324	299.01
Demand (MW)	6989	6857	6856
Available capacity (MW)	8456	8517	8491

Conditions at the time saw demand close to forecast and available capacity up to 300 MW below forecast. Prices were aligned with those in New South Wales.

A planned outage of a Static Var Compensator (SVC), or voltage control device, at Blackwall in Queensland reduced the limit on flows across QNI into New South Wales to 540 MW. This compares to a nominal limit of 950 MW. The limit bound between 6 pm and 8.55 pm. The outage was originally planned for completion by 3.50 pm, but was extended a number of times and at 4.12 pm was further extended until 5 pm the next day.

At 2.46 pm Origin Energy rebid 356 MW of capacity across its portfolio from prices above $9000/MWh to below $40/MWh. The rebid reason given was “Change in PDS”.

Over two rebids at 3.14 pm and 4.50 pm CS Energy reduced capacity at Kogan Creek by up to 300 MW. This capacity was all priced below zero. The rebid reason was “Commissioning”.

From 4.56 pm Stanwell Corporation rebid 270 MW of capacity across its Stanwell units from prices below zero to above $9000/MWh. The rebid reason given was “Manage transmission constraint”.

From midday, Tarong Energy rebid as much as 105 MW of capacity from prices below $300/MWh to above $4000/MWh. An extra 50 MW of capacity was presented, ultimately all priced above $4000/MWh. The rebid reasons given were “Plant conditions::adjust avail”, “Manage WIV water resource::Volume profile change”, “Manage interconnector constraint::volume profile change” and “Manage WIV water resource::swap WIV for TAR gen”.

There was no other significant rebidding.

Thursday, 14 June

6:00 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	7796.33	289.83	156.57
Demand (MW)	7135	7154	7096
Available capacity (MW)	8660	8973	9318
6:30 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	4850.79	289.83	289.81
Demand (MW)	7046	7022	6969
Available capacity (MW)	8673	8681	9019
7:00 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	2542.32	289.81	289.75
Demand (MW)	6955	6912	6864
Available capacity (MW)	8683	8677	8961

Conditions at the time saw demand close to that forecast and available capacity up to 650 MW below forecast 12 hours ahead. Prices reflected those in New South Wales.

The outage of the Blackwall SVC, which commenced the previous day and had limited flows across QNI to 540 MW, continued. NEMMCO revoked the constraint at 5.30 pm, lifting the restriction on flows following advice from Powerlink that the network limits were conservative and had been determined without consideration of generation at Braemar and Kogan Creek.

A delay in the return to service of Millmerran unit two reduced the available capacity by 220 MW. All of this capacity was priced below zero. The rebid reason given was “Revised synchronisation”. This followed the unit’s trip at around 11.30 pm on Tuesday 12 June.

At 4.10 pm Tarong Energy Corporation Ltd shifted 140 MW of capacity at Tarong from prices below $300/MWh to above $4400/MWh. A further 50 MW of capacity at Wivenhoe unit two was rebid from prices below $90/MWh to above $9900/MWh. The rebid reason given by both stations was “Manage Interconnector Constraint::Volume Profile Change”.

Full load tests on CS Energy’s Kogan Creek were delayed with the unit reducing its available capacity by 410 MW over a number of rebids to 340 MW. This capacity was all priced below zero. The rebid reason given was “Commissioning”.

There was no other significant rebidding.

Friday, 15 June

5:30 pm	Actual	4 hr forecast	12 hr forecast
Price ($/MWh)	913.58	289.83	55.14
Demand (MW)	6446	6639	6632
Available capacity (MW)	8634	8730	9468

Conditions at the time saw demand up to 200 MW lower than that forecast four and 12 hours ahead and available capacity close to forecast four hours ahead but 900 MW lower than that forecast 12 hours ahead.

Flows across the Terranora interconnector were constrained to 85 MW from Queensland. This compares to the nominal limit of 180 MW. Flows across QNI were also close to the nominal limit in the same direction.

At 3.22 pm, Origin Energy shifted 288 MW of capacity at Mt Stuart from prices of above $9000/MWh to below zero. The rebid reason given was “Change in PDS”.

At 5.07 pm Tarong Energy rebid 140 MW of capacity across Tarong units three and four from prices below $290/MWh to prices above $4000/MWh. The rebid reason given was “Cover contract position overnight::volume profile change”.

At 5.12 pm CS Energy rebid 275 MW of capacity across its Callide B units one and two from prices below $50/MWh to above $9000/MWh. The rebid reason given was “Call B constraint management”.

There was no other significant rebidding

Saturday, 16 June

6:00 pm	Actual	4 hr forecast	12 hr forecast
Price ($/MWh)	6215.97	362.62	289.75
Demand (MW)	6629	6564	6529
Available capacity (MW)	8387	8338	8701

Conditions at the time saw demand and available capacity close to that forecast four and 12 hours ahead.

At 1.13 pm CS Energy delayed commissioning tests on Kogan Creek, reducing its available capacity by 400 MW to zero.

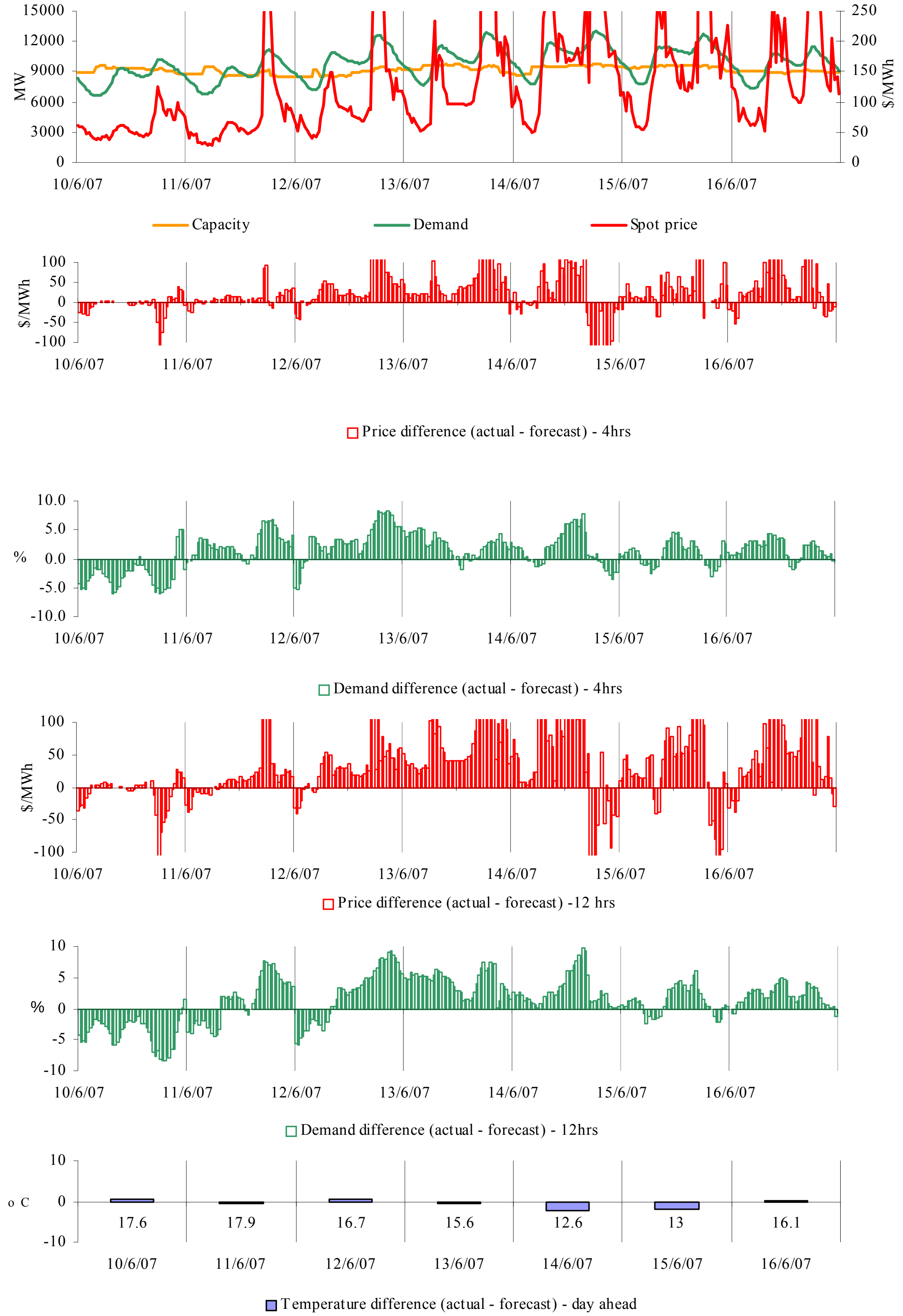
At 5.41 pm Origin Energy rebid 288 MW of capacity across Mt Stuart from prices above $9000/MWh to zero. The rebid reason give was “Change in PDS”.

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 12 occasions where the spot prices in New South Wales were greater than three times the weekly average price of $417/MWh.

Tuesday, 12 June

6:00 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	6276.44	500.01	500.01
Demand (MW)	12 488	11 745	11 738
Available capacity (MW)	9393	9540	9480

Demand in New South Wales was 740 MW higher than forecast and at the highest levels since January. The amount of available generation in New South Wales was around 9400 MW, a reduction of more than 3000 MW compared with the winter maximum capacity. Generator outages at Bayswater (690 MW) Wallerawang (500 MW) and a delay in the return of 660 MW at Vales Point contributed to the reduction. Steam leaks and wet coal at Eraring resulted in a further 335 MW reduction in capacity.

There was no other significant rebidding.

Wednesday, 13 June

5:30 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	2004.00	206.58	134.22
Demand (MW)	12 042	11 984	11 257
Available capacity (MW)	9405	9920	10130
6:00 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	9936.37	359.68	331.48
Demand (MW)	12 782	12 571	11 824
Available capacity (MW)	9430	9940	10130
6:30 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	9420.63	360.15	335.66
Demand (MW)	12 852	12 587	12 060
Available capacity (MW)	9517	10000	10130
7:00 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	8838.26	368.5	331.47
Demand (MW)	12 770	12 484	11 930
Available capacity (MW)	9554	9670	10130
7:30 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	5793.82	361.06	293.5
Demand (MW)	12 543	12 185	11 611
Available capacity (MW)	9522	9520	10130

Demand in New South Wales, was within 400 MW of the record and 350 MW higher than forecast. National demand also approached record levels. Available capacity in New South Wales was 500 MW and around 725 MW lower than forecast four and 12 hours ahead respectively.

At 8.57 am Delta Electricity reduced capacity at Vales Point unit six by 230 MW priced below $20/MWh. The rebid reason given was “Feed pump::capacity limit change”. At 2.09 pm the same unit tripped reducing capacity by a further 330 MW.

From 2.53 pm and over several rebids Delta Electricity reduced the capacity at Munmorah by 320 MW priced below $20/MWh. The rebid reasons given were “Coal supply::change capacity” and “Return to service::capacity change”.

Over two rebids at 4.25 pm and 4.43 pm, Macquarie Generation increased the availability across its portfolio by 105 MW. This included 50 MW at Bayswater, 30 MW at Liddell and its 25 MW Hunter Valley gas turbine. All of this capacity was priced above $4000/MWh with most priced above $9000/MWh. The rebid reasons given were “Change in NSW availability” and “LRC Forecast for NSW”.

There was no other significant rebidding.

Thursday, 14 June

6:00 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	8461.5	8888	8667
Demand (MW)	12 923	12 879	12 783
Available capacity (MW)	9728	9738	9652
6:30 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	5386.06	8889	8888
Demand (MW)	12 979	12 929	12 828
Available capacity (MW)	9728	9738	9648
7:00 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	2826.24	8888	4993.99
Demand (MW)	12 860	12 854	12 760
Available capacity (MW)	9728	9708	9648

Near record demand continued to occur in New South Wales and was reflected in both the forecast four and 12 hours ahead. Available capacity was also close to that forecast. Prices were up to $6000/MWh lower than forecast four hours ahead.

There was no significant rebidding.

Friday, 15 June

6:00 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	2257.87	500	500
Demand (MW)	12 697	12 501	12 399
Available capacity (MW)	9655	9678	9658
6:30 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	5350.05	500	538.52
Demand (MW)	12 597	12 532	12 413
Available capacity (MW)	9678	9678	9658

Conditions at the time saw demand and available capacity close to that forecast four and 12 hours ahead.

Over a number of rebids from 4.40 pm, Snowy Hydro shifted a total of 155 MW of capacity from prices below $500/MWh to prices above $5000/MWh. The rebids also included slight changes to the availability of the portfolio. The rebid reasons given included “Manage forecast voltage constnt Snowy1:Bandshift up”, “Manage Snowy1 voltage constraint:Re-Aloc gen”, “Manage Snowy1 constraint:Bndshft dn”, “Prices higher than exptc:bandshift down”, “Manage Snowy1 contraint bndshft up”, “Manage Snowy constraint” and “Mng Snowy1:bnd shft down”.

At 4.53 pm Delta Electricity reduced its available generation by 100 MW at Wallerawang unit eight from prices of less than $9800/MWh, with majority of this capacity priced at $24/MWh. The rebid reason given was “High silica::capacity limit change”. At 6.18 pm a further 30 MW of capacity was bid unavailable from the price of $24/MWh and the rebid reason given was “Milling capacity::capacity limit change”.

At 6.01 pm Stanwell rebid 130 MW of capacity from prices below $420/MWh to above $9000/MWh. The rebid reasons given were “manage transmission constraint”. At 6.10 pm further rebids were made that shifted 40 MW of capacity from price below $-900/MWh to above $9000/MWh. The rebid reasons given were “manage transmission constraint”.

There was no other significant rebidding.

Saturday, 16 June

6:00 pm	Actual	4 hr forecast	12 hr forecast
Price ($/MWh)	6868.57	402.8	334.75
Demand (MW)	11 443	11 187	10 982
Available capacity (MW)	9112	9188	9268

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

At 4.45 pm Macquarie Generation rebid 460 MW of capacity at Liddell from prices below $100/MWh to prices above $4000/MWh. At the same time, 300 MW of capacity at Bayswater was shifted from prices above $9000/MWh to under $20/MWh. The rebid reasons given were “Coal management” and “Adjustment due to LD coaling”.

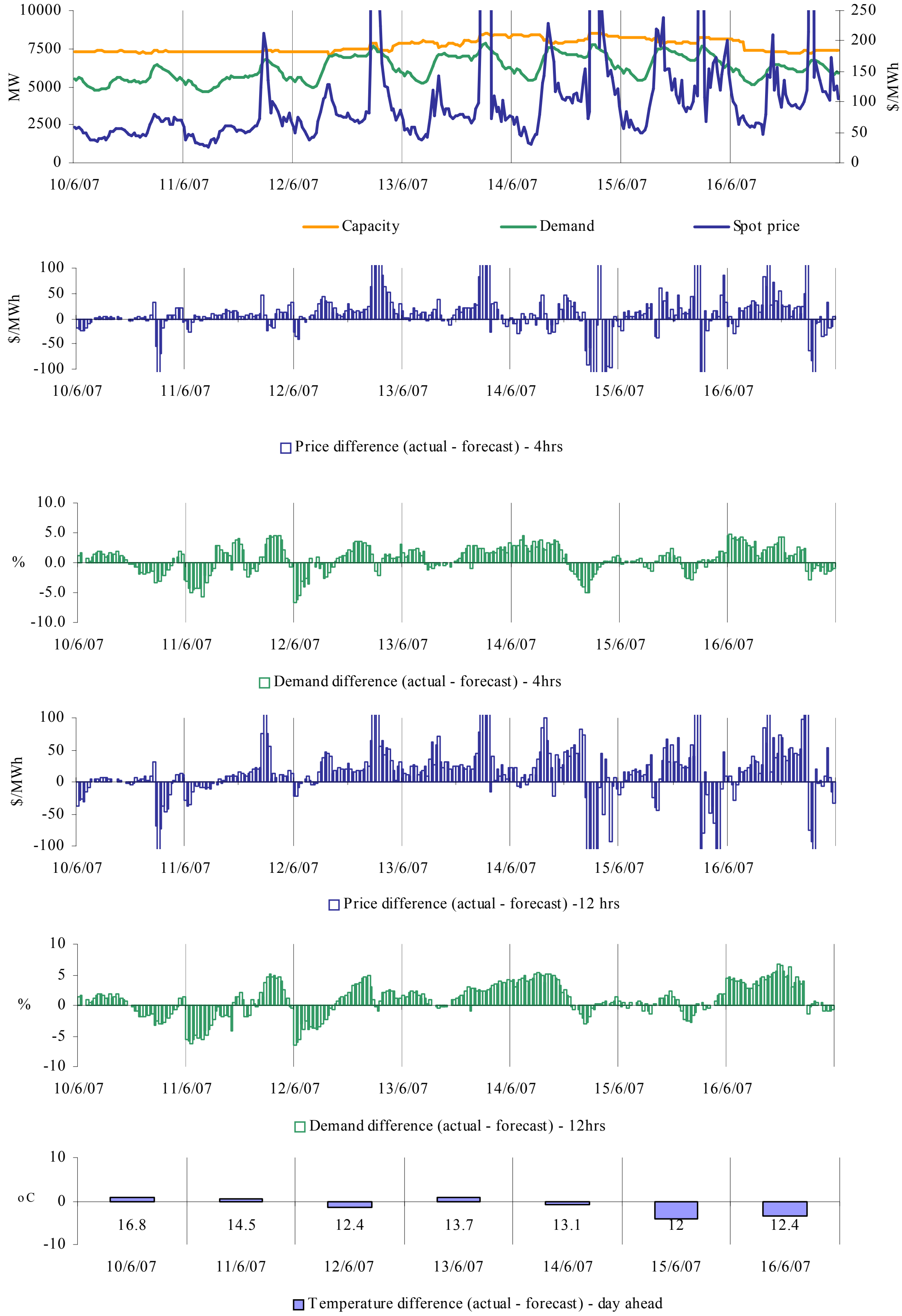
At 5.25 pm Snowy Hydro rebid 149 MW of capacity at Murray, from prices below $450/MWh to prices above $9000/MWh. The rebid reason given was “Manage FCAS Snowy1 constraint 5 min PD:bndshift up”.

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 were 10 occasions where the spot prices in Victoria were greater than three times the weekly average price of $179/MWh.

Tuesday, 12 June

6:00 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	2761.49	289.79	294.57
Demand (MW)	7619	7624	7557
Available capacity (MW)	7886	7847	7812

Conditions at the time saw demand and available capacity close to that forecast four and 12 hours ahead.

Throughout the day, a network constraint limited interconnector transfers and generator output in Victoria. This constraint is designed to avoid overloading network equipment at South Morang, just north of Melbourne. The constraint resulted in counter price flows into South Australia.

From 1.49 pm, Ecogen rebid 335 MW of capacity across its portfolio from prices above $9000/MWh to below $55/MWh. The rebid reasons all related to changes in market conditions.

There was no other significant rebidding.

Wednesday, 13 June

6:00 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	3928.81	114.96	275.80
Demand (MW)	7777	7597	7603
Available capacity (MW)	8387	8432	8017
6:30 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	3456.49	176.48	292.19
Demand (MW)	7811	7746	7622
Available capacity (MW)	8478	8432	8007
7:00 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	3296.95	106.20	289.33
Demand (MW)	7661	7542	7479
Available capacity (MW)	8514	8372	8007
7:30 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	1998.99	97.21	251.68
Demand (MW)	7480	7377	7294
Available capacity (MW)	8417	8367	7977

Conditions at the time saw demand and available capacity close to that forecast. Prices were following those in New South Wales and Queensland.

From 10.27 am and over several rebids Ecogen rebid 270 MW of capacity across its portfolio from prices above $9000/MWh to below $55/MWh. The rebid reasons givens included “Band adj due to fuel limitations”, “Band adj due to PF plant conditions” and “Adj to unit commitment due to PD conditions”.

There was no other significant rebidding.

Thursday, 14 June

6:00 pm	Actual	4 hr forecast	12 hr forecast
Price ($/MWh)	3145.27	3202.24	3306.02
Demand (MW)	7732	7960	7868
Available capacity (MW)	8507	8467	8259
6:30 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	1077.74	3161.81	7080.63
Demand (MW)	7763	7949	7801
Available capacity (MW)	8512	8467	8259
7:00 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	830.05	3125.4	2939.41
Demand (MW)	7617	7767	7673
Available capacity (MW)	8503	8483	8259

Conditions at the time saw demand up to 180 MW lower than that forecast four hours ahead. Available capacity was up to 250 MW higher than forecast 12 hours ahead but close to that forecast four hours ahead. Prices were generally following those in New South Wales.

Over two rebids at 5.27 pm and 5.32 pm Ecogen rebid 225 MW of capacity at Newport from prices above $9900/MWh to below zero. The rebid reasons given were "Corr:Band adj due to F2 transformer" and "Band adj due to 5min vs 30 min set".

There was no other significant rebidding

Friday, 15 June

6:00 pm	Actual	4 hr forecast	12 hr forecast
Price ($/MWh)	696.86	191.27	198.44
Demand (MW)	7620	7593	7597
Available capacity (MW)	8192	8294	8304

Conditions at the time saw demand and available capacity close to forecast four and twelve hours ahead. A total of 690 MW was flowing into Victoria across Basslink and MurrayLink while 760 MW was flowing out of Victoria across the Heywood and Snowy interconnectors, at times counter price.

From 5.35 pm to 8 pm NEMMCO minimised the accumulation of negative settlement residues by invoking constraints to reduce the flow on the Heywood Interconnector in the VIC to SA direction.

There was no significant rebidding.

Saturday, 16 June

6:00 pm	Actual	4 hr forecast	12 hr forecast
Price ($/MWh)	2882.13	197.13	200.52
Demand (MW)	6694	6784	6687
Available capacity (MW)	7229	7255	7459

Conditions at the time saw demand and available capacity close to that forecast four and 12 hours ahead.

From 4.25 pm to 8.20 pm NEMMCO minimised the accumulation of negative settlement residues by invoking constraints to reduce the flow on the Heywood Interconnector in the VIC to SA direction to 130 MW at 5.30 pm.

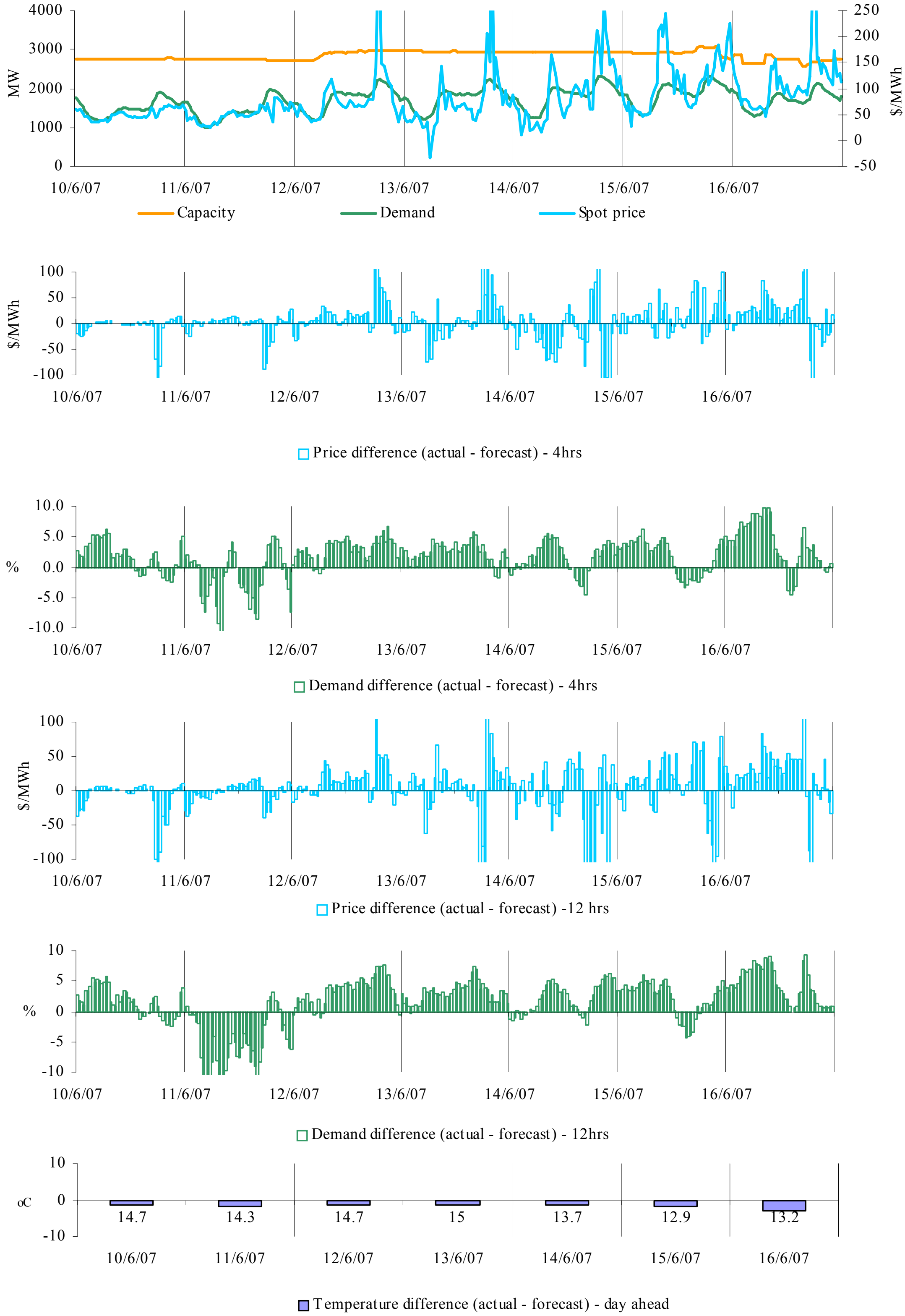
At 5.32 pm Ecogen rebid 59 MW of capacity unavailable at Jeeralang unit one due to plant failure. A further rebid at 5.38 pm shifted 180 MW of capacity across Jeeralang unit’s two to four, from prices above $9000/MWh to prices below $900/MWh. The rebid reason given was “Adj to unit commitment due port plant failure”.

There was no other significant rebidding.

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 were four occasions where the spot prices in South Australia were greater than three times the weekly average price of $89/MWh.

Tuesday, 12 June

7:00 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	274.71	65.7	160.7
Demand (MW)	2253	2139	2084
Available capacity (MW)	2985	2972	2949

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

There was no significant rebidding.

Wednesday, 13 June

7:30 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	433.69	95	250
Demand (MW)	2197	2167	2119
Available capacity (MW)	2940	2943	2954

Conditions at the time saw demand and available capacity close to that forecast four and 12 hours ahead.

At 5.55 pm NEMMCO invoked a constraint set to limit negative settlements that limited flow across VIC-SA to 140 MW. Forecasts at the time had VIC exporting to SA at the nominal limit of 460 MW.

There was no significant rebidding.

Thursday, 14 June

8:00 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	277.38	128.44	299
Demand (MW)	2263	2199	2172
Available capacity (MW)	2938	2928	2928

Conditions at the time saw demand close to that forecast four and 12 hours ahead. Available capacity was also close to forecast.

From 12:30 pm to 8 pm NEMMCO invoked constraints to reduce the flow on the Heywood Interconnector into South Australia to minimised the accumulation of negative settlement residues. Flow reduced from 265 MW to around 70 MW.

At 3.31 pm Snowy Hydro rebid 340 MW of capacity at Laverton North from prices below zero to above $9600/MWh. The rebid reason given was “Gas issue in VIC reallocate gen hydro for gas”. At 3.35 pm a further 225 MW of capacity at Valley Power was rebid similarly for the same reason.

At 3.37 pm Ecogen rebid 235 MW of capacity at Newport from prices below $440/MWh to above $9900/MWh. The rebid reason given was “Band adj due to market risk-redist MW”.

There was no other significant rebidding.

Saturday, 16 June

6:00 pm	Actual	4 hr forecast	12 hr forecast
Price ($/MWh)	476.72	96.05	141.48
Demand (MW)	2041	1908	1850
Available capacity (MW)	2679	2876	2885

Conditions at the time saw demand and available capacity close to that forecast four and 12 hours ahead.

From 4.25 pm to 8.20 pm NEMMCO invoked constraints to reduce the flow on the Heywood Interconnector in the VIC to SA and minimise the accumulation of negative settlement residues.

At 2.41 pm Flinders Power reduced the capacity of Osborne by 184 MW, all priced below $55/MWh. The rebid reason given was “OCPL tripped”.

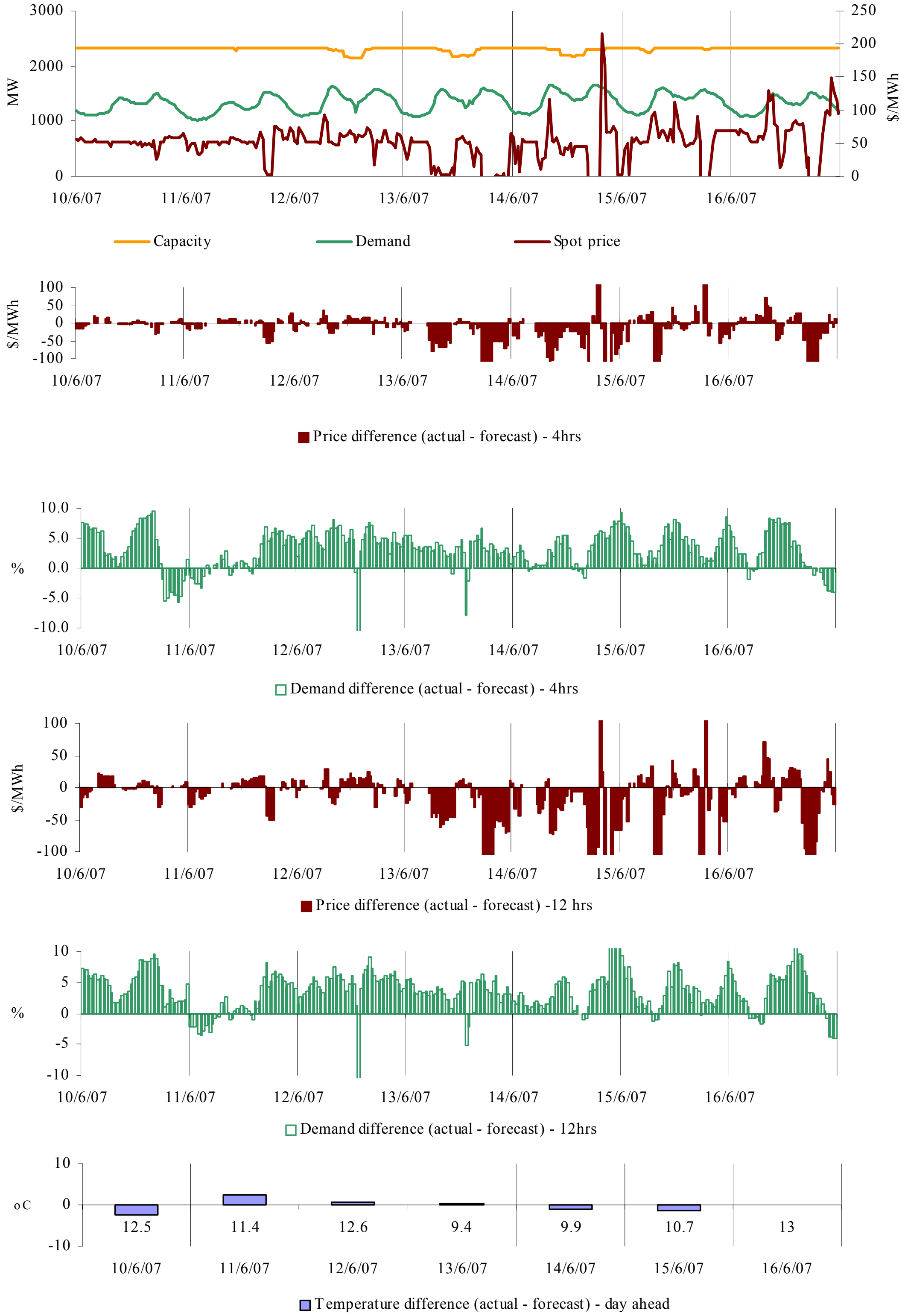
At 2.11 pm TRUenergy reduced the capacity of Torrens Island B1 by 120 MW, 100 MW of which was priced below zero. The rebid reason given was “Plant conditions-maintenance

There was no other significant rebidding.

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 were 263 occasions where the spot prices in Tasmania were greater than three times the weekly average price of $13/MWh. The low average price was due to negative prices occurring in 21 trading intervals. These negative prices coincided with the high price and demand periods on the mainland. There were no significant high prices in Tasmania.

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

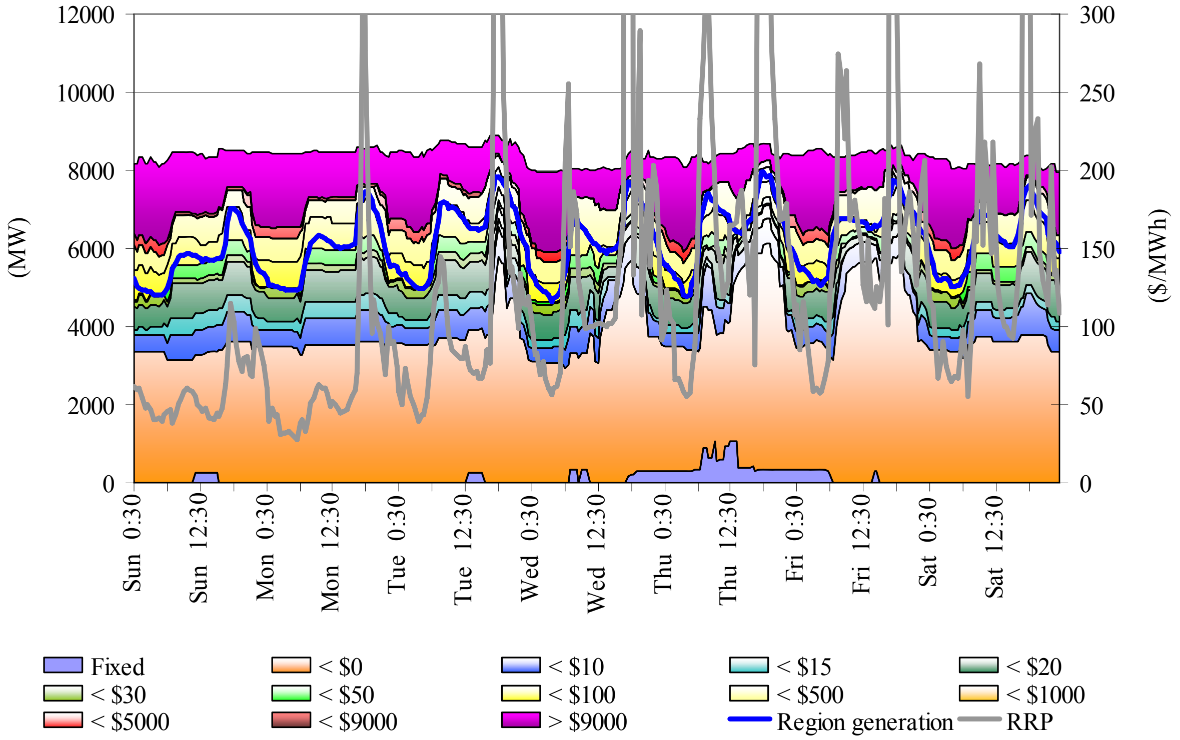


Figure 58: New South Wales closing bid prices, dispatched generation and spot price

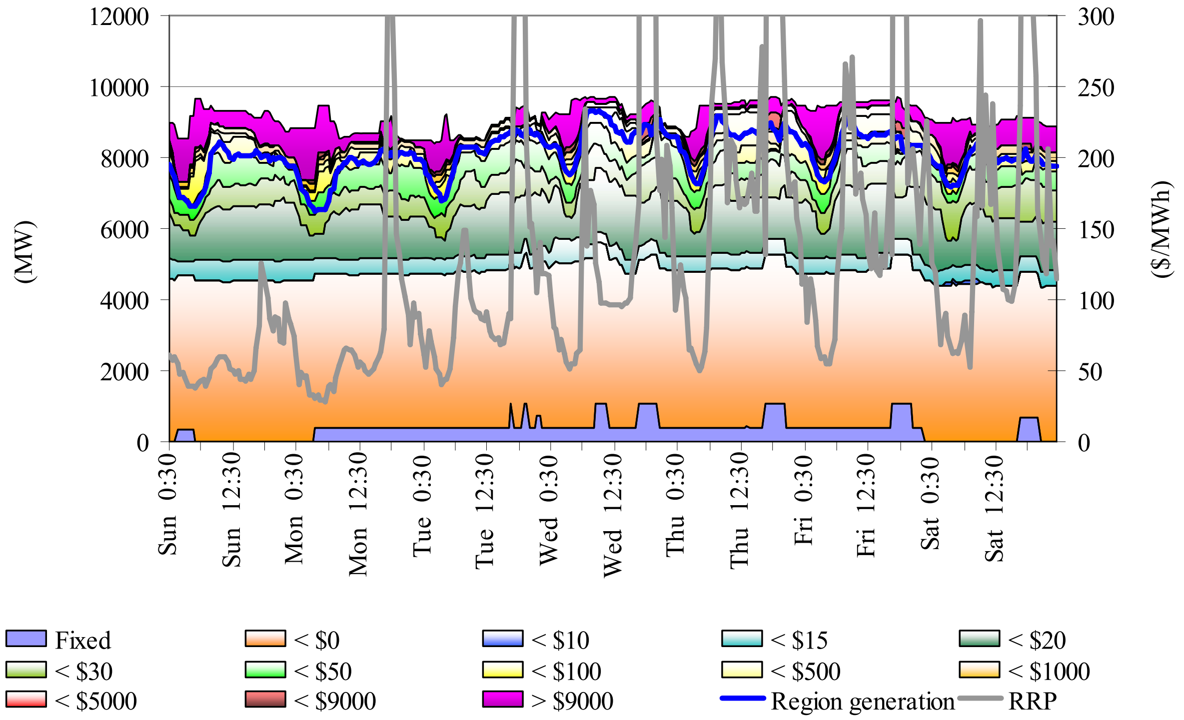


Figure 59: Victoria closing bid prices, dispatched generation and spot price

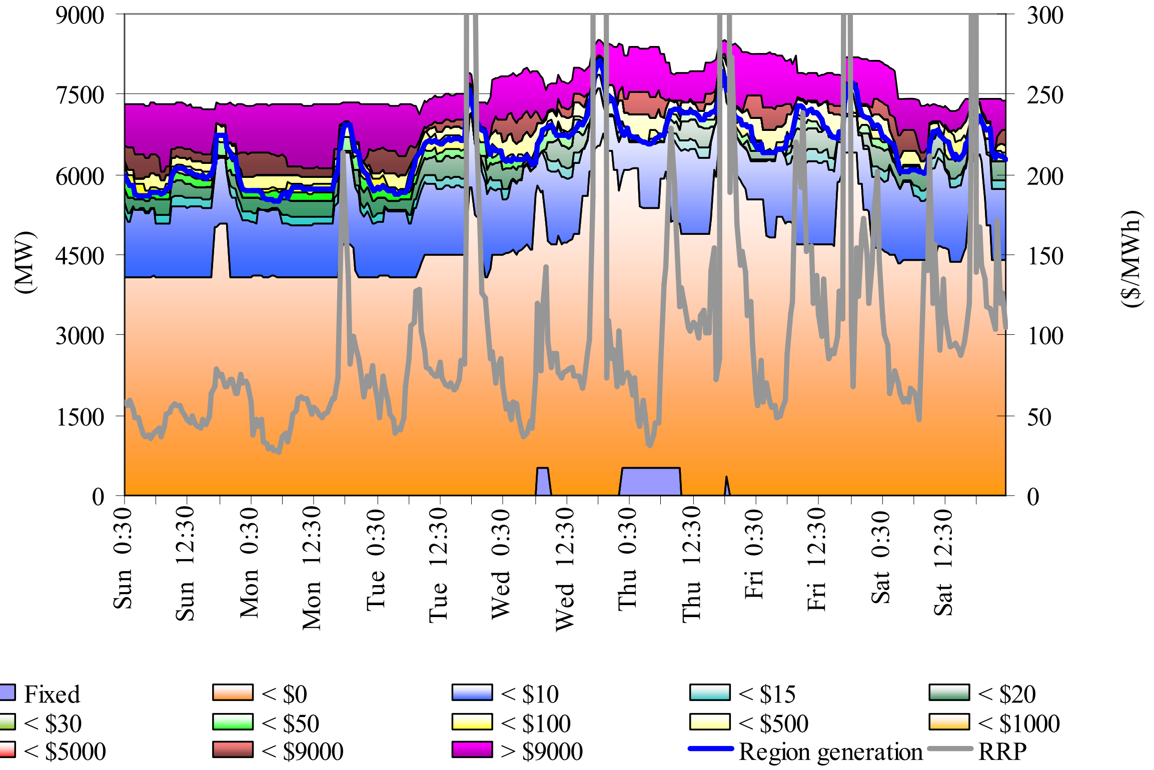


Figure 60: South Australia closing bid prices, dispatched generation and spot price

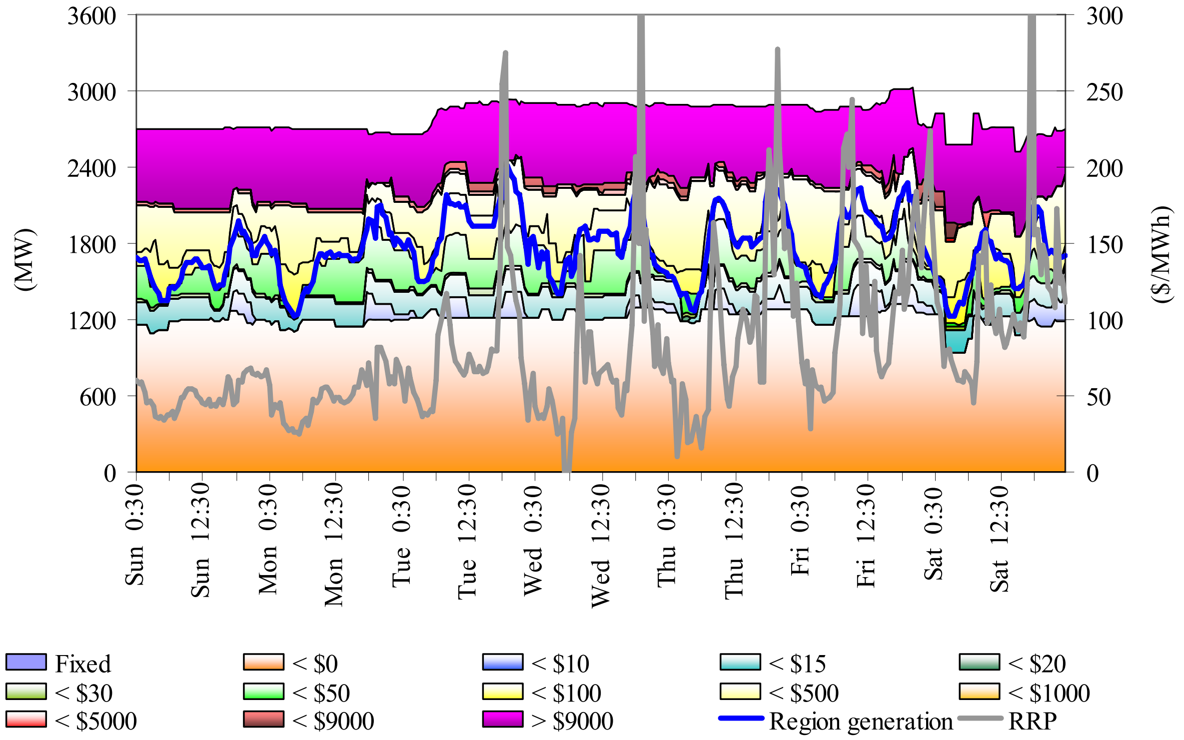
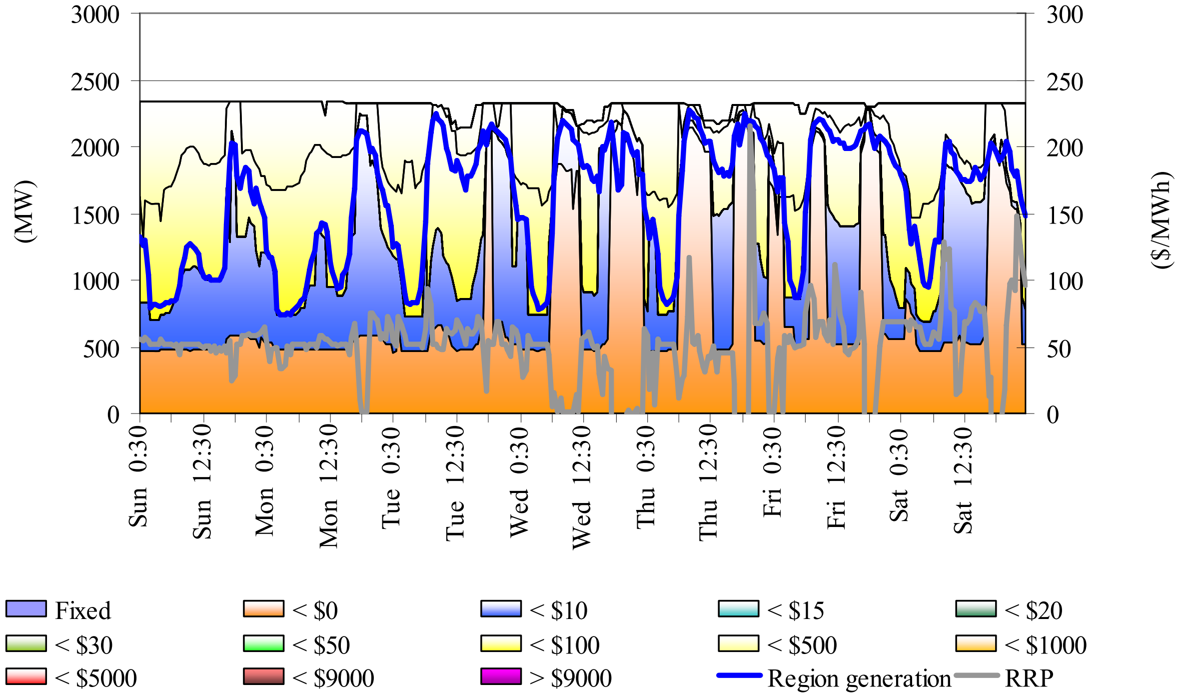


Figure 61: Tasmania closing bid prices, dispatched generation and spot price



Ancillary service market

The total cost of ancillary services on the mainland for the week was $428 000 or 0.04 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 ($/MW)	1.87	0.76	2.32	6.02	0.11	0.05	0.68	1.63
Previous week ($/MW)	1.37	0.68	1.74	5.09	0.15	0.09	0.42	1.45
Last quarter ($/MW)	1.76	0.73	1.15	1.54	0.39	2.28	5.00	1.93
Market Cost ($1000s)	83	32	147	137	0.1	0	5	24
% of energy market	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%

The total cost of ancillary services in Tasmania for the week was $229 000 or 8 per cent of the turnover in the energy market in Tasmania.

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 ($/MW)	15.93	1.78	2.12	5.96	0.21	2.48	2.07	1.82
Previous week ($/MW)	7.16	1.58	1.96	4.65	0.00	2.81	2.03	1.21
Last quarter ($/MW)	4.97	0.49	2.93	3.00	12.67	0.43	0.82	0.45
Market Cost ($1000s)	28	10	13	19	2	84	62	10
% of energy market	0.95%	0.35%	0.44%	0.65%	0.08%	2.90%	2.15%	0.36%

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

Figure 64: daily frequency control ancillary service cost

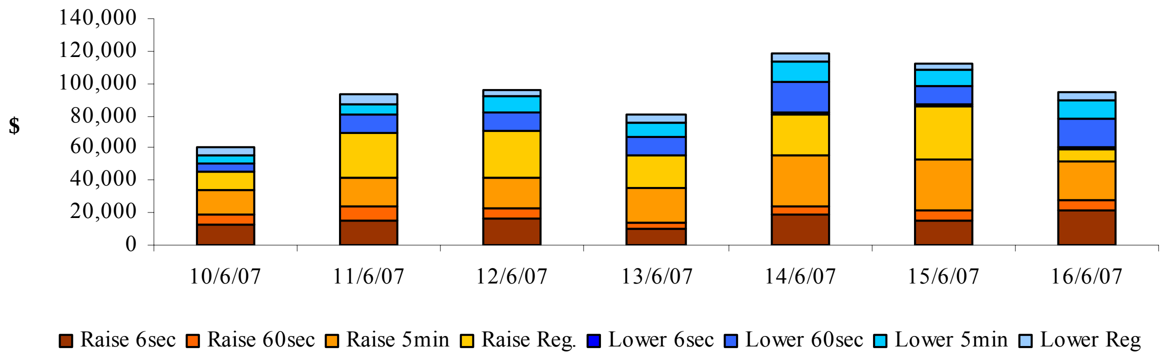
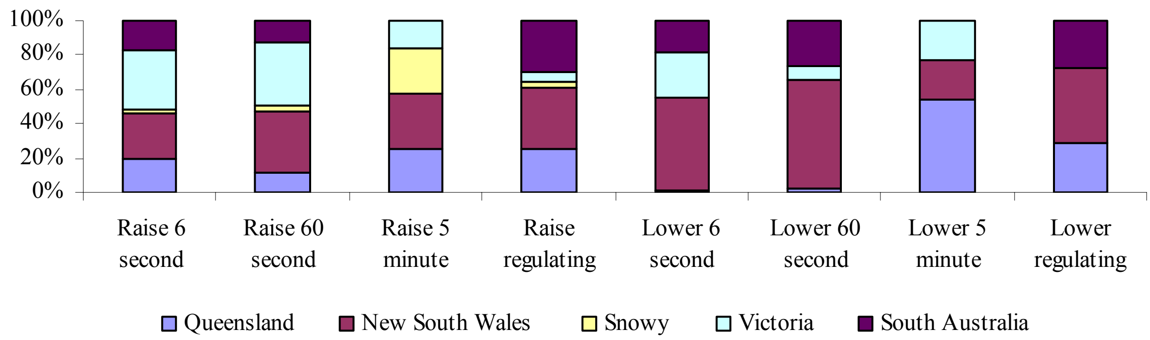


Figure 65 shows the contribution, on a percentage basis, that frequency control ancillary service providers are utilised (in each mainland region) to satisfy the total requirement for each service.

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

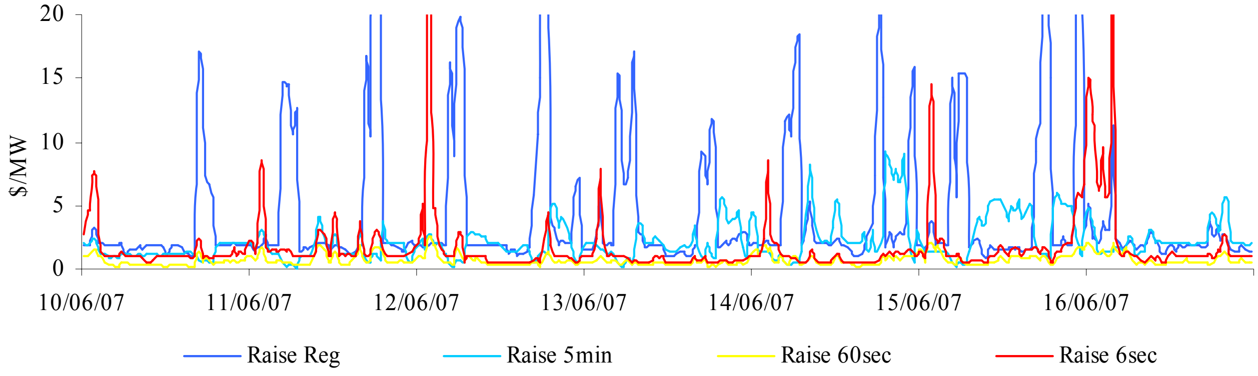


Figure 66A: prices for raise services – Tasmania

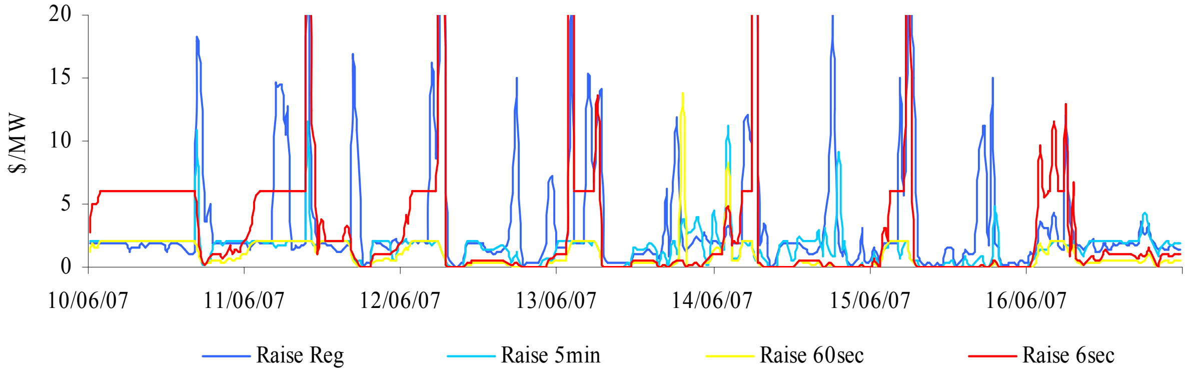


Figure 67: prices for lower services

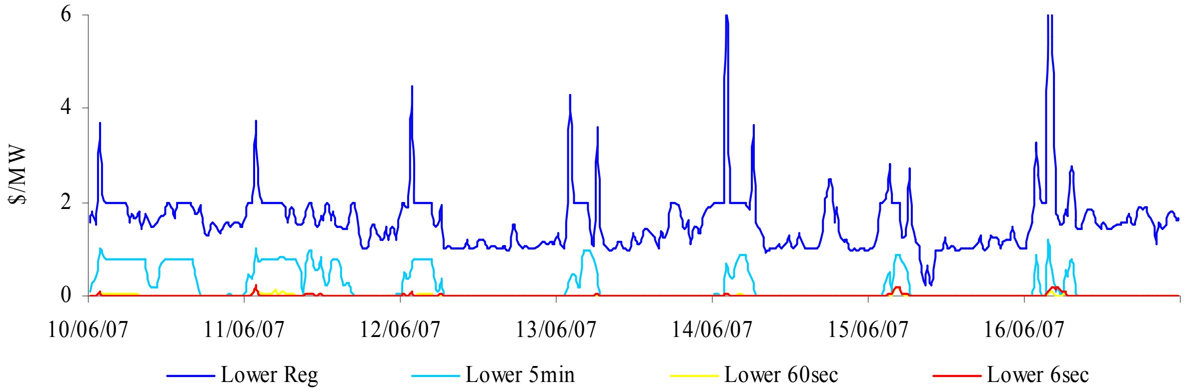
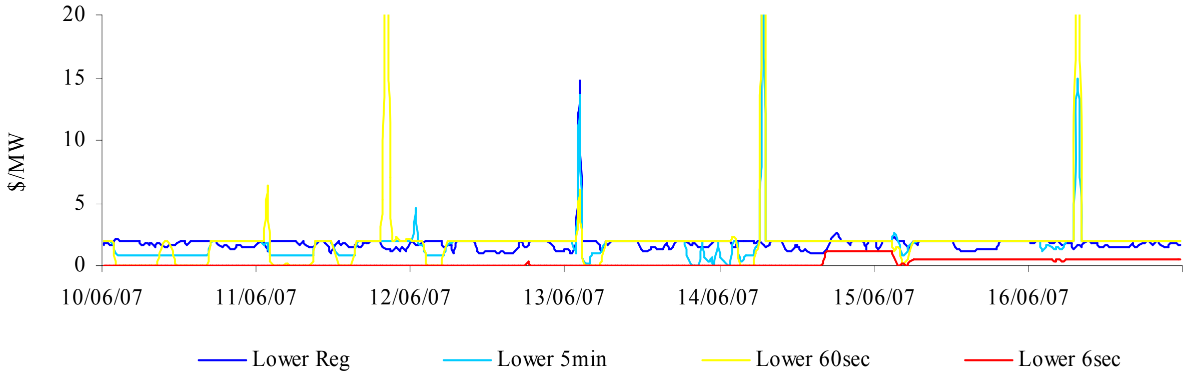


Figure 67A: prices for lower services – Tasmania



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

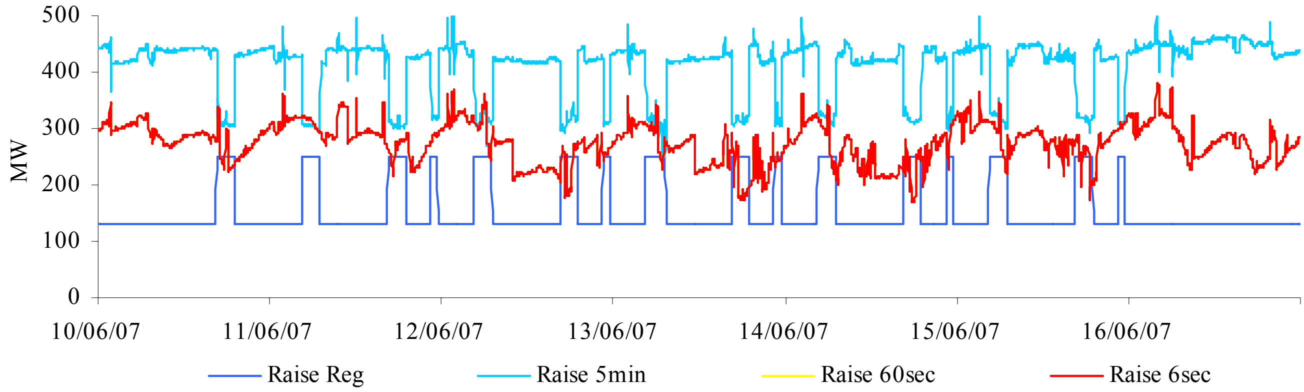


Figure 68A: raise requirements – Tasmania

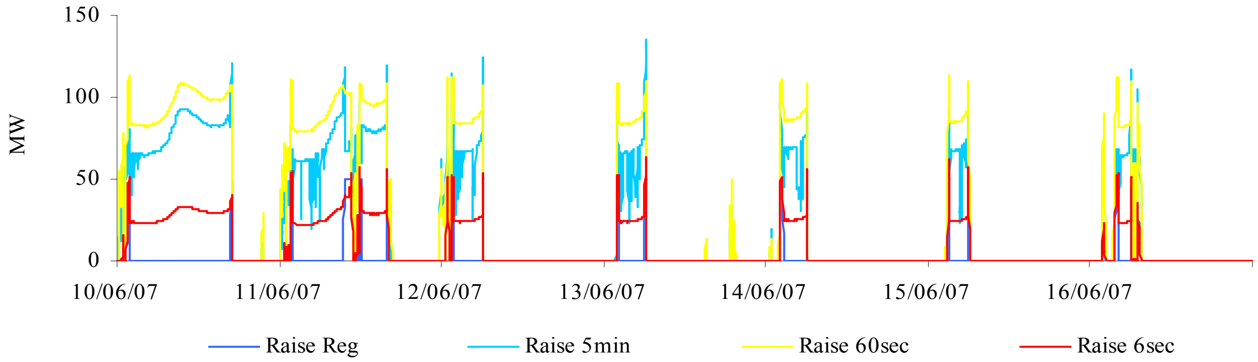


Figure 69: lower requirements

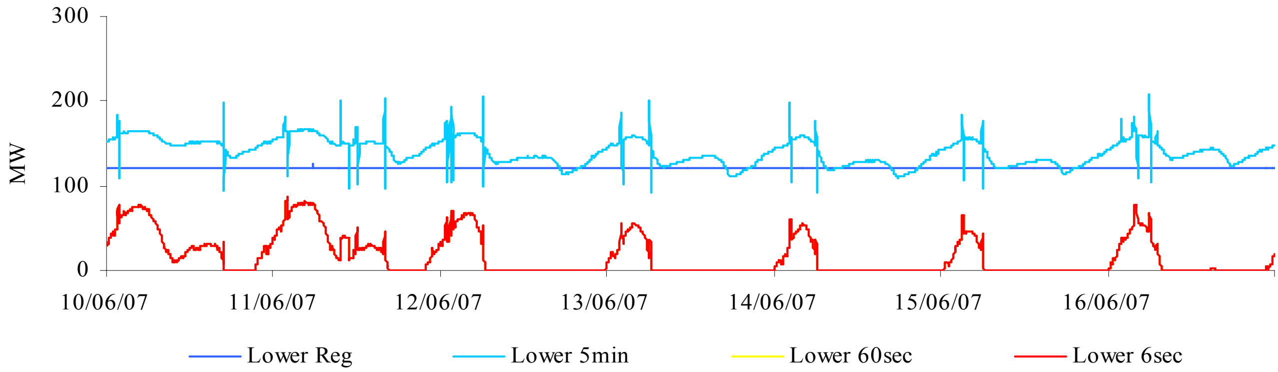


Figure 69A: lower requirements – Tasmania