

WEEKLY ELECTRICITY MARKET ANALYSIS



AUSTRALIAN ENERGY
REGULATOR

8 – 14 November 2009

Summary

The highest average spot price for the week of \$645/MWh occurred in South Australia (close to the highest ever average weekly spot price in South Australia). High demands driven by high temperatures (Adelaide experienced its first spring heatwave ever recorded) saw the spot price reach \$10 000/MWh in South Australia for 13 trading intervals with a further price above \$5000/MWh. On Friday the cumulative price threshold (CPT) was breached and an administered pricing period commenced. In accordance with the National Electricity Rules, the AER will issue separate reports into the circumstances that led to the spot prices exceeding \$5000/MWh.

Across the rest of the National Electricity Market (NEM) average spot prices ranged from \$25/MWh in Queensland to \$41/MWh in Victoria.

In the financial markets trades for the week were at their highest levels for the past twelve months (see Figure 5 below) with 45 per cent of these traded in Victoria.

Spot market prices

Figure 1 sets out the volume weighted average prices for the week 8 to 14 November and the financial year to date across the NEM. It compares these prices with price outcomes from the previous week and year to date respectively.

Figure 1: Volume weighted average spot price by region (\$/MWh)

	Qld	NSW	VIC	SA	Tas
Average price for 8 – 14 November	25	28	41	645	38
% change from previous week*	-56	-60	60	664	26
09/10 financial YTD	28	31	26	74	26
% change from 08/09 financial YTD**	-27	-41	-38	80	-45

*The percentage change between last week's average spot price and the average price for the previous week. Calculated on VWA prices prior to rounding.

**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. Percentage changes are calculated on VWA prices prior to rounding.

The AER provides further information if the spot price exceeds three times the weekly average and is above \$250/MWh. Details of these events are attached in Appendix A. Longer term market trends are attached in Appendix B¹.

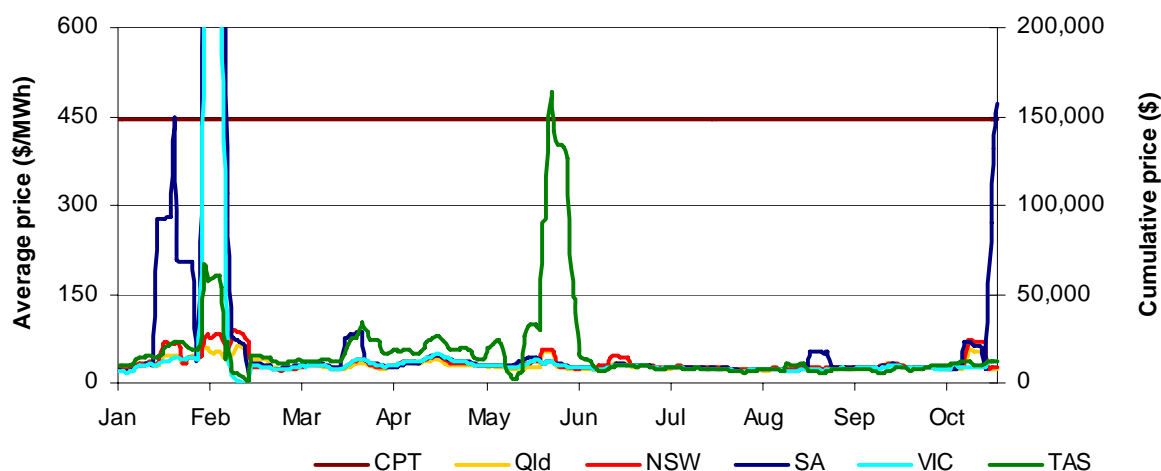
Figure 2 shows the seven day rolling cumulative price for each region in 2009 together with the CPT (and the equivalent seven day time-weighted average price).

¹ Monitoring the performance of the wholesale market is a key part of the AER's role and an overview of the market's performance in the long-term is provided on the AER website. Long-term statistics can be found there on, amongst other things, demand, spot prices, contract prices and frequency control ancillary services prices.

To access this information go to

www.aer.gov.au -> Monitoring, reporting and enforcement -> Electricity market reports -> Long-term analysis.

Figure 2: Seven day rolling cumulative price and CPT



Financial markets

Figures 3 to 10 show futures contract² prices traded on the Sydney Futures Exchange (SFE) as at close of trade on Monday 16 November. Figure 2 shows the base futures contract prices for the next three calendar years, and the three year average. Also shown are percentage changes³ compared to the previous week.

Figure 3: Base calendar year futures contract prices (\$/MWh)

	QLD		NSW		VIC		SA	
Calendar Year 2010	39	4%	43*	4%	42*	4%	55	8%
Calendar Year 2011	42	4%	45*	3%	45	4%	54	0%
Calendar Year 2012	48	0%	51	0%	53	0%	69	0%
Three year average	43	2%	46	2%	47	3%	60	2%

Source: d-cyphaTrade www.d-cyphatrade.com.au
 * denotes trades in the product.

Figure 4 shows the \$300 cap contract price for the first quarter of 2010 and the 2010 calendar year and the percentage change⁴ from the previous week.

Figure 4: \$300 cap contract prices (\$/MWh)

	QLD		NSW		VIC		SA	
Q1 2010 (% Change)	24*	4%	21	6%	25*	5%	42	0%
2010 (% Change)	11	2%	11	3%	9	3%	14	0%

Source: d-cyphaTrade www.d-cyphatrade.com.au
 * denotes trades in the product.

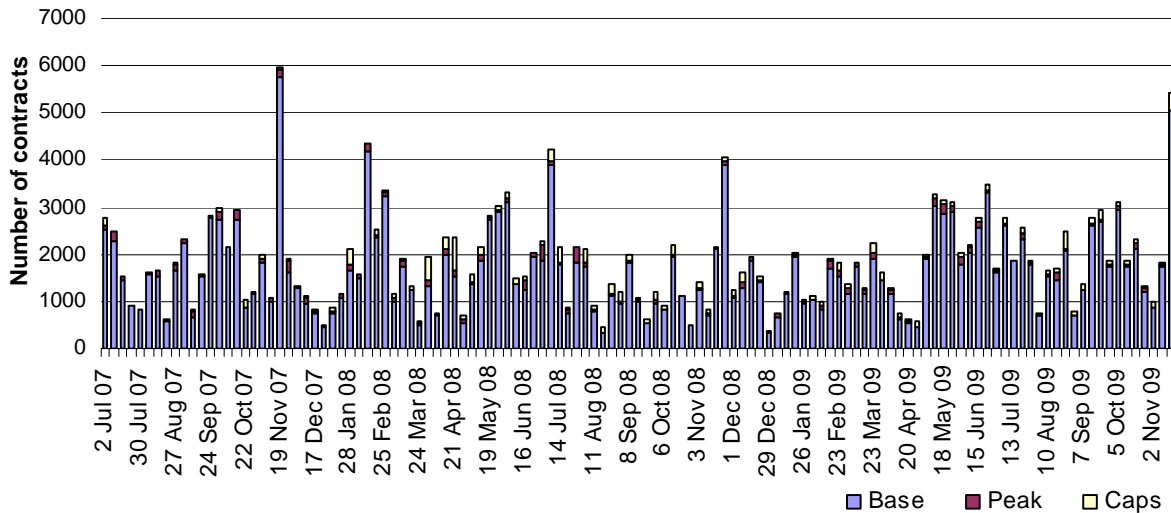
Figure 5 shows the weekly trading volumes for base, peak and cap contracts. The date represents the end of the trading week.

² Futures contracts on the SFE are listed by d-cyphaTrade (www.d-cyphatrade.com.au). A futures contract is typically for one MW of electrical energy per hour based on a fixed load profile. A base load profile is defined as the base load period from midnight to midnight Monday to Sunday over the duration of the contract quarter. A peak load profile is defined as the peak-period from 7 am to 10 pm Monday to Friday (excluding Public holidays) over the duration of the contract quarter.

³ Calculated on prices prior to rounding.

⁴ Calculated on prices prior to rounding.

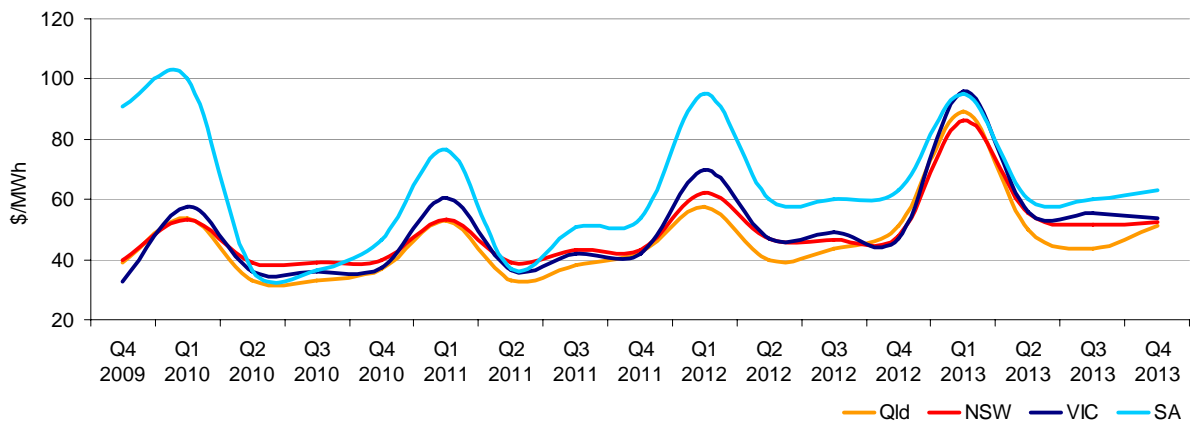
Figure 5: Number of exchange traded contracts per week



Source: d-cyphaTrade www.d-cyphatrade.com.au

Figure 6 shows the prices for base contracts for each quarter for the next four financial years.

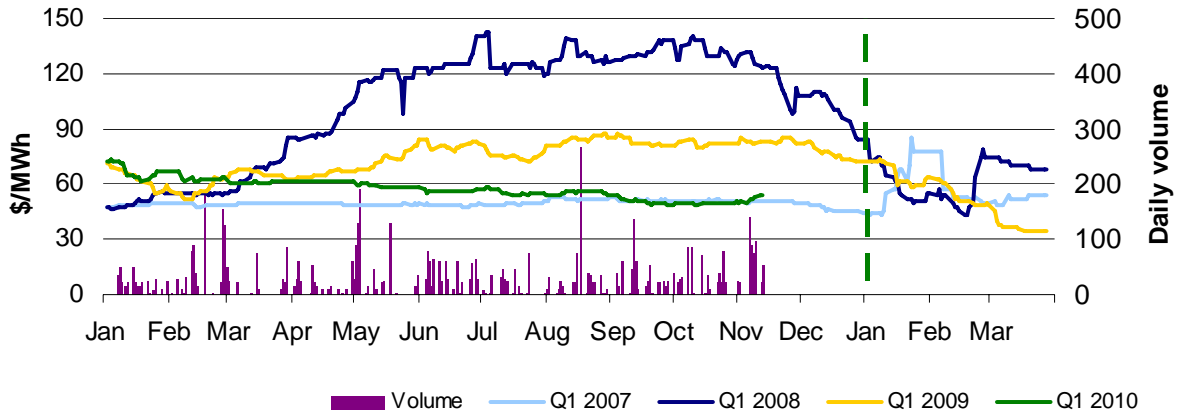
Figure 6: Quarterly base future prices Q4 2009 – Q3 2013



Source: d-cyphaTrade www.d-cyphatrade.com.au

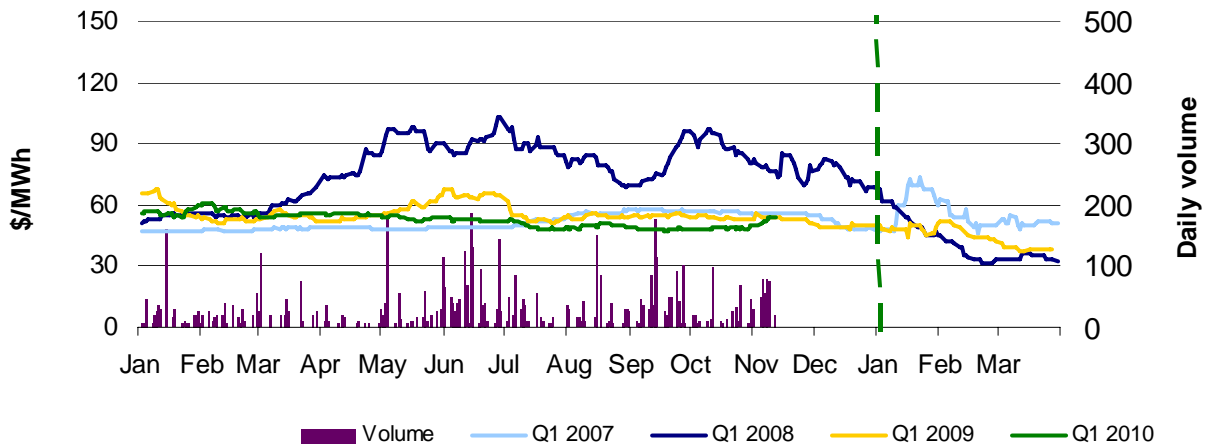
Figures 7-10 compare for each region the closing daily base contract prices for the first quarter of 2007, 2008, 2009 and 2010. Also shown is the daily volume of Q1 2010 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased. To understand the diagrams, the dark-blue line demonstrates that throughout the middle of 2007, the market had an expectation of very high spot prices in the first quarter of 2008.

Figure 7: Queensland Q1 2007, 2008, 2009 and 2010



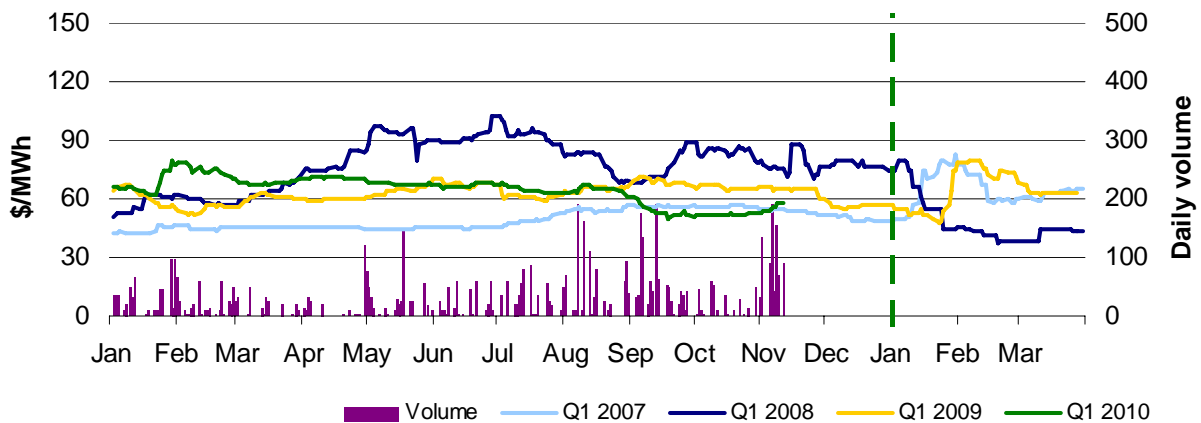
Source: d-cyphaTrade www.d-cyphatrade.com.au

Figure 8: New South Wales Q1 2007, 2008, 2009 and 2010



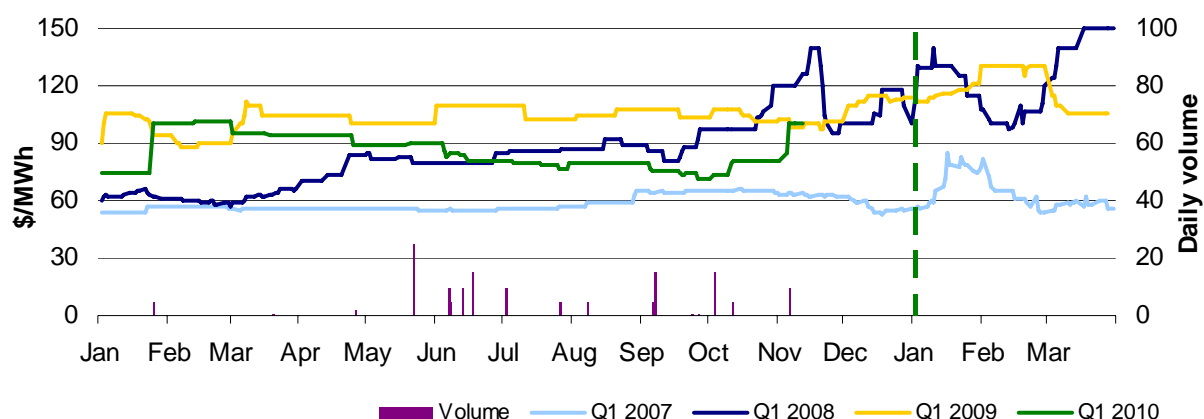
Source: d-cyphaTrade www.d-cyphatrade.com.au

Figure 9: Victoria Q1 2007, 2008, 2009 and 2010



Source: d-cyphaTrade www.d-cyphatrade.com.au

Figure 10: South Australia Q1 2007, 2008, 2009 and 2010



Source: d-cyphaTrade www.d-cyphatrade.com.au

*The daily volume scale for South Australia is smaller than for other regions to reflect the lower liquidity in the market in South Australia.

Spot market forecasting variations

The AER is required under the National Electricity Rules to determine whether there is a significant variation between the forecast spot price published by the Australian Energy Market Operator (AEMO) and the actual spot price and, if there is a variation, state why the AER considers the significant price variation occurred. It is not unusual for there to be significant variations as demand forecasts vary and as participants react to changing market conditions. There were 187 trading intervals throughout the week where actual prices varied significantly from forecasts⁵. This compares to the weekly average in 2008 of 130 counts. Reasons for these variances are summarised in Figure 11⁶.

Figure 11: Reasons for variations between forecast and actual prices

	Availability	Demand	Network	Combination
% of total above forecast	1	25	0	1
% of total below forecast	58	9	0	6

Demand and bidding patterns

The AER reviews demand, network limitations and generator bidding as part of its market monitoring to better understand the drivers behind price variations. Figure 12 shows the weekly change in total available capacity at various price levels during peak periods⁷. For example, in Queensland 303 MW more capacity was offered at prices under \$20/MWh this week compared to the previous week. Also included is the change in average demand during peak periods, for comparison.

⁵ A trading interval is counted as having a variation if the actual price differs significantly from the forecast price either four or 12 hours ahead.

⁶ The table summarises (as a percentage) the number of times when the actual price differs significantly from the forecast price four or 12 hours ahead and the major reason for that variation. The reasons are classified as availability (which means that there is a change in the total quantity or price offered for generation), demand forecast inaccuracy, changes to network capability or as a combination of factors (when there is not one dominant reason). An instance where both four and 12 hour ahead forecasts differ significantly from the actual price will be counted as two variations.

⁷ A peak period is defined as between 7 am and 10 pm on weekdays, which aligns with the SFE contract definition.

Figure 12: Changes in available generation and average demand compared to the previous week during peak periods

MW	<\$20/MWh	Between \$20 and \$50/MWh	Total availability	Change in average demand
Qld	303	77	679	-207
NSW	709	-297	427	111
VIC	469	244	654	1850
SA	611	189	869	977
TAS	121	-199	-119	81
TOTAL	2213	14	2510	2812

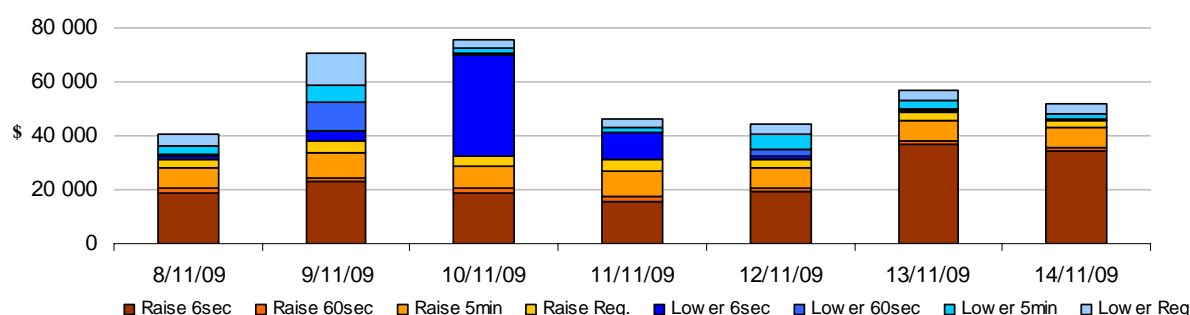
Ancillary services market

The total cost of frequency control ancillary services (FCAS) on the mainland for the week was \$144 000 or less than one per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was \$242 000 or about three per cent of energy turnover in Tasmania.

Figure 13 shows the daily breakdown of cost for each FCAS for the NEM.

Figure 13: Daily frequency control ancillary service cost



**Australian Energy Regulator
November 2009**

Detailed Market Analysis

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South Australia: There were 16 occasions where the spot price in South Australia was greater than three times the South Australia weekly average price of \$645/MWh.

Tuesday, 10 November

3:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	3460.43	9999.60	9494.30
Demand (MW)	2856	2839	2765
Available capacity (MW)	3117	3071	3084
4:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	9999.77	9999.77	9999.60
Demand (MW)	2893	2873	2777
Available capacity (MW)	3124	3098	3084
4:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	9999.77	9999.77	9999.60
Demand (MW)	2901	2889	2798
Available capacity (MW)	3133	3105	3112
5:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	9999.69	9999.02	434.40
Demand (MW)	2874	2863	2783
Available capacity (MW)	3133	3102	3131

In accordance with clause 3.13.7 of the Electricity Rules, the AER will issue a separate report into the circumstances that led to the spot price exceeding \$5000/MWh.

Wednesday, 11 November

3:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	5062.11	9999.77	9999.77
Demand (MW)	2925	3039	3064
Available capacity (MW)	3082	3124	3095
4:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	9999.77	9999.77	9999.77
Demand (MW)	2957	3037	3084
Available capacity (MW)	3093	3125	3103
4:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	9999.77	9999.77	9999.77
Demand (MW)	2976	3024	3085
Available capacity (MW)	3096	3119	3157
5:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	9999.77	9999.07	9999.77
Demand (MW)	2953	2994	3031
Available capacity (MW)	3131	3123	3153
5:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	9999.71	9999.03	9999.77
Demand (MW)	2909	2992	2984
Available capacity (MW)	3127	3123	3152

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Thursday, 12 November

3:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	9999.77	9999.77	9999.77
Demand (MW)	2810	2944	2947
Available capacity (MW)	2873	3135	3122
4:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	9999.77	9999.77	9999.77
Demand (MW)	2804	2958	2948
Available capacity (MW)	2914	3146	3130
4:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	9999.77	9999.77	9999.77
Demand (MW)	2830	2984	2970
Available capacity (MW)	2917	3156	3222
5:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	9999.77	9999.77	9999.77
Demand (MW)	2809	2974	2957
Available capacity (MW)	2916	3165	3226

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Friday, 13 November

3:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	4999.77	4999.77	4999.77
Demand (MW)	2836	2897	2997
Available capacity (MW)	2845	2825	2866
4:00 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	9999.77	9999.77	9999.77
Demand (MW)	2856	2930	2989
Available capacity (MW)	2875	2831	2874
4:30 pm	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	9999.77	9999.77	9999.77
Demand (MW)	2858	2939	2976
Available capacity (MW)	2902	2821	2948

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