

WEEKLY ELECTRICITY MARKET ANALYSIS



AUSTRALIAN ENERGY
REGULATOR

15 August – 21 August 2010

Summary

On Thursday 19 August, the spot price in South Australia fell to \$-423/MWh at 3.30 am and \$-519/MWh at 4 am. Prices in other NEM regions were between \$8/MWh and \$15/MWh during this time. The spot price was negative in South Australia eight times (all early in the morning) during the week, with a further seven negative prices since 1 July. These negative prices are explained in detail in Appendix A.

The weekly average spot price in Queensland was \$21/MWh, \$23/MWh in Tasmania and South Australia and \$25/MWh in Victoria and New South Wales.

Spot market prices

Figure 1 sets out the volume weighted average prices for the week 15 to 21 August 2010 and the 10/11 financial year 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 15 – 21 August 2010	21	25	25	23	23
% change from previous week*	29	-64	-17	-26	-85
10/11 financial YTD	21	33	28	30	56
% change from 09/10 financial YTD **	-22	10	7	10	121

*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 and the average spot price for the previous financial year. Percentage changes are calculated on VWA prices prior to rounding.

Longer term market trends are attached in Appendix B¹.

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.

Financial markets

Figures 2 to 9 show futures contract² prices traded on the Sydney Futures Exchange (SFE) as at close of trade on Monday 23 August 2010. 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 2: Base calendar year futures contract prices (\$/MWh)

	QLD		NSW		VIC		SA	
Calendar Year 2011	32*	0%	41*	-1%	38*	0%	45*	0%
Calendar Year 2012	35*	2%	45*	1%	41*	0%	47	0%
Calendar Year 2013	54	-6%	56	-6%	56	-5%	69	0%
Three year average	40	-3%	47	-2%	45	-2%	54	0%

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

* denotes trades in the product.

Figure 3 shows the \$300 cap contract price for the first quarter of 2011 and the 2011 calendar year and the percentage change⁴ from the previous week.

Figure 3: \$300 cap contract prices (\$/MWh)

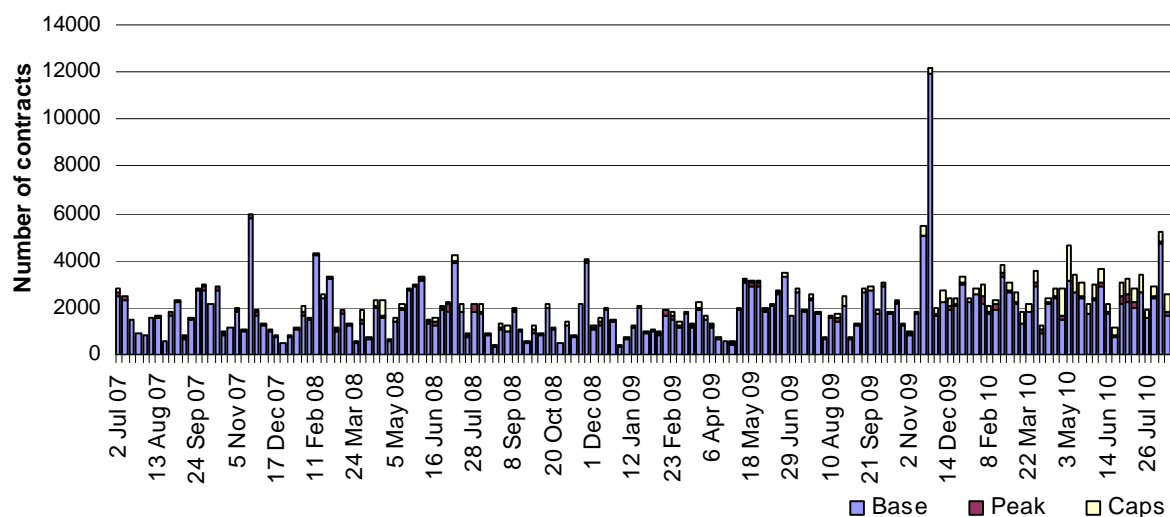
	QLD		NSW		VIC		SA	
Q1 2011 (% Change)	17	-1%	20*	0%	26*	0%	34	0%
2011 (% Change)	8	-1%	12	0%	9	-2%	12	0%

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

* denotes trades in the product.

Figure 4 shows the weekly trading volumes for base, peak and cap contracts. The date represents the end of the trading week.

Figure 4: Number of exchange traded contracts per week



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

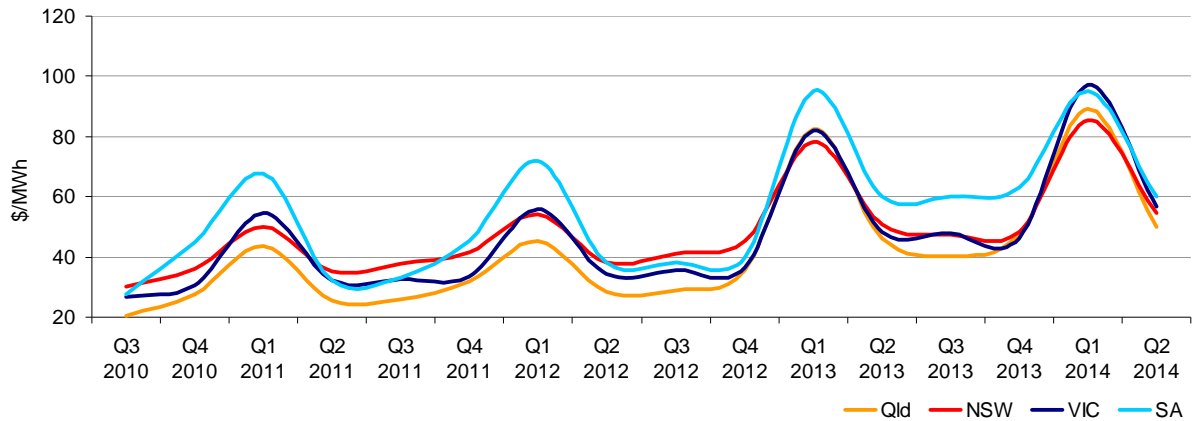
² Futures contracts traded on the SFE are listed by d-cyphaTrade (www.d-cyphatrade.com.au). A futures contract is typically for one MW of electrical energy per hour based on a fixed load profile. A base load profile is defined as the base load period from midnight to midnight Monday to Sunday over the 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 shows the prices for base contracts for each quarter for the next four financial years.

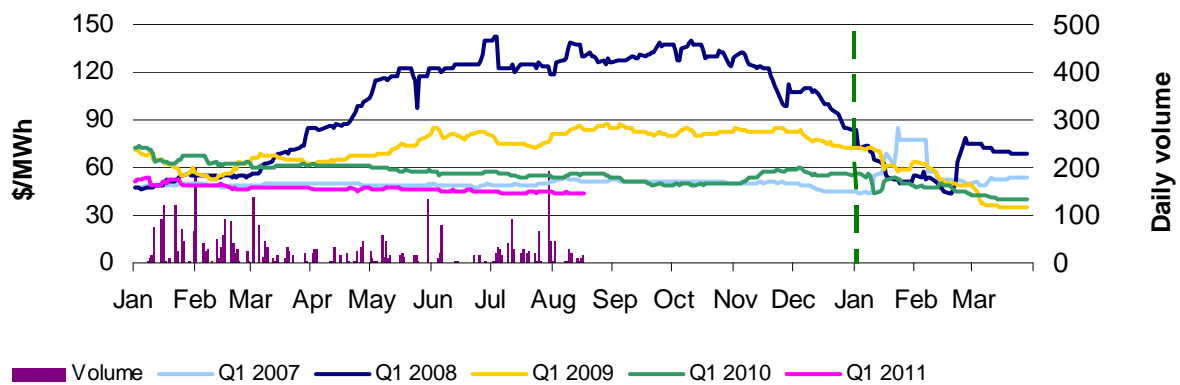
Figure 5: Quarterly base future prices Q3 2010 – Q2 2014



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

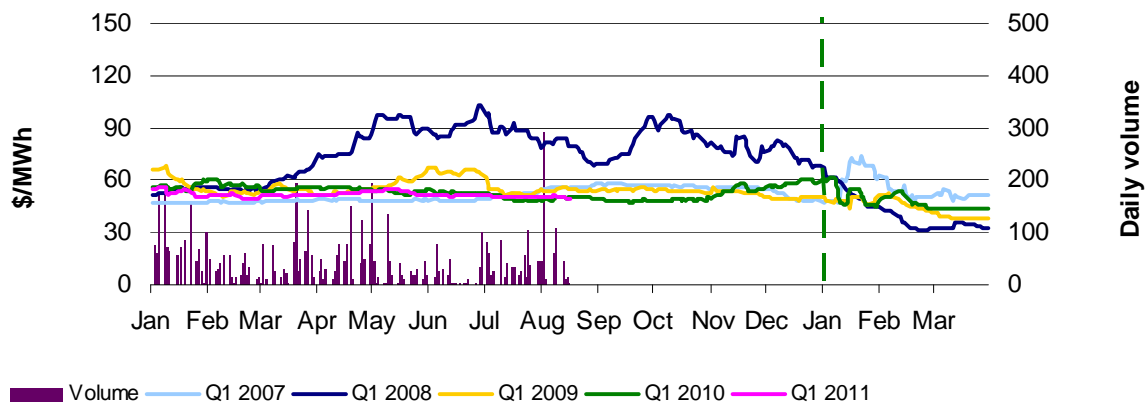
Figures 6-9 compare for each region the closing daily base contract prices for the first quarter of 2007, 2008, 2009, 2010 and 2011. Also shown is the daily volume of Q1 2011 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased. 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 6: Queensland Q1 2007, 2008, 2009, 2010 and 2011



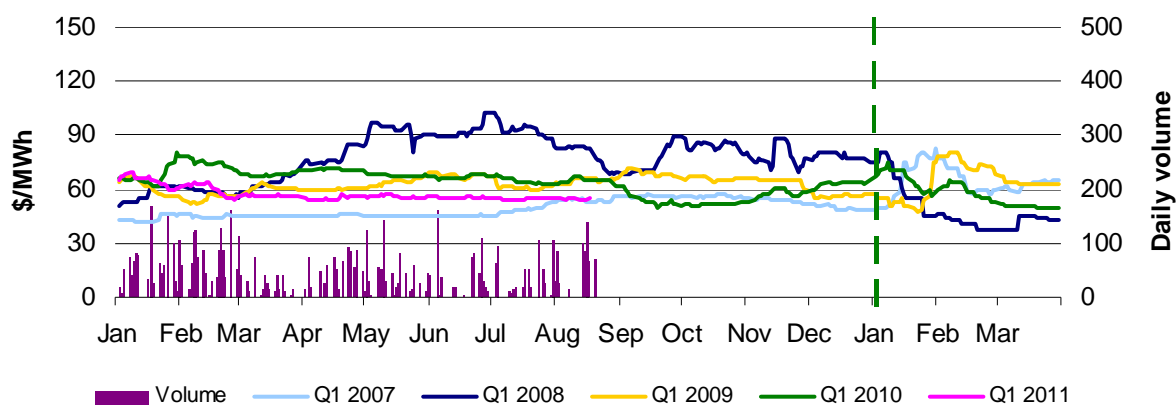
Source: d-cyphaTrade www.d-cyphatrade.com.au

Figure 7: New South Wales Q1 2007, 2008, 2009, 2010 and 2011



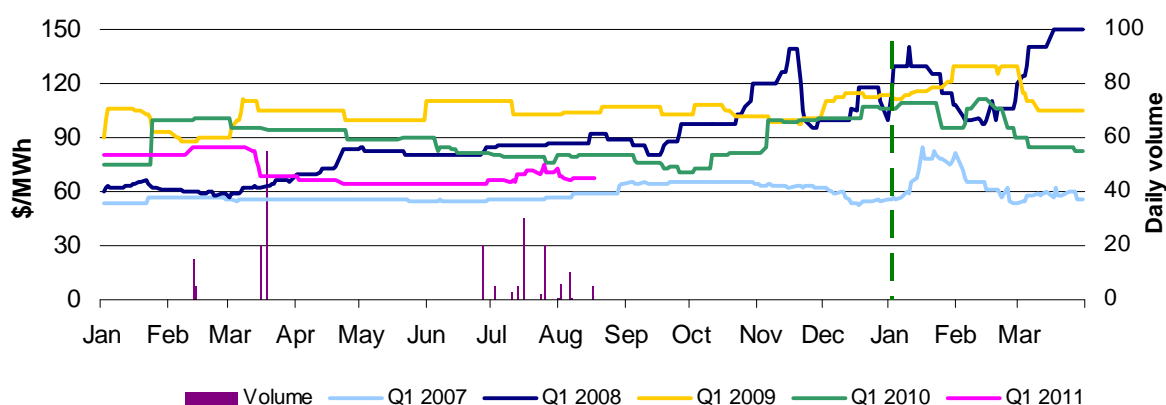
Source: d-cyphaTrade www.d-cyphatrade.com.au

Figure 8: Victoria Q1 2007, 2008, 2009, 2010 and 2011



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

Figure 9: South Australia Q1 2007, 2008, 2009, 2010 and 2011



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 16 trading intervals throughout the week where actual prices varied significantly from forecasts⁵. This compares to the weekly average in 2009 of 103 counts. Reasons for these variances are summarised in Figure 10⁶.

Figure 10: Reasons for variations between forecast and actual prices

	Availability	Demand	Network	Combination
% of total above forecast	0	0	2	5
% of total below forecast	30	32	0	31

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.

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 11 shows the weekly change in total available capacity at various price levels during peak periods⁷. For example, in Queensland 266 MW less 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.

Figure 11: 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	-266	242	-194	15
NSW	-428	325	-285	-617
VIC	-118	437	-62	19
SA	38	27	94	-89
TAS	223	-132	-45	42
TOTAL	-551	899	-492	-630

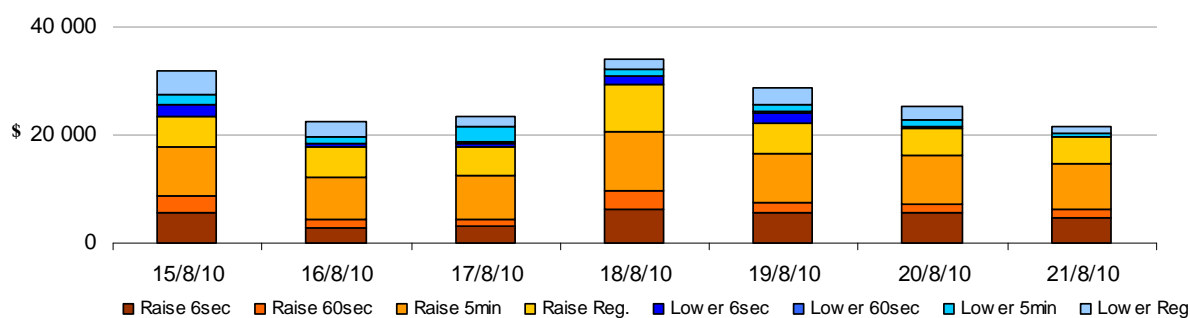
Ancillary services market

The total cost of frequency control ancillary services (FCAS) on the mainland for the week was \$154 000 or less than one per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was \$34 000 or less than one per cent of energy turnover in Tasmania.

Figure 12 shows the daily breakdown of cost for each FCAS for the NEM.

Figure 12: Daily frequency control ancillary service cost



Australian Energy Regulator August 2010

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



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South Australia:

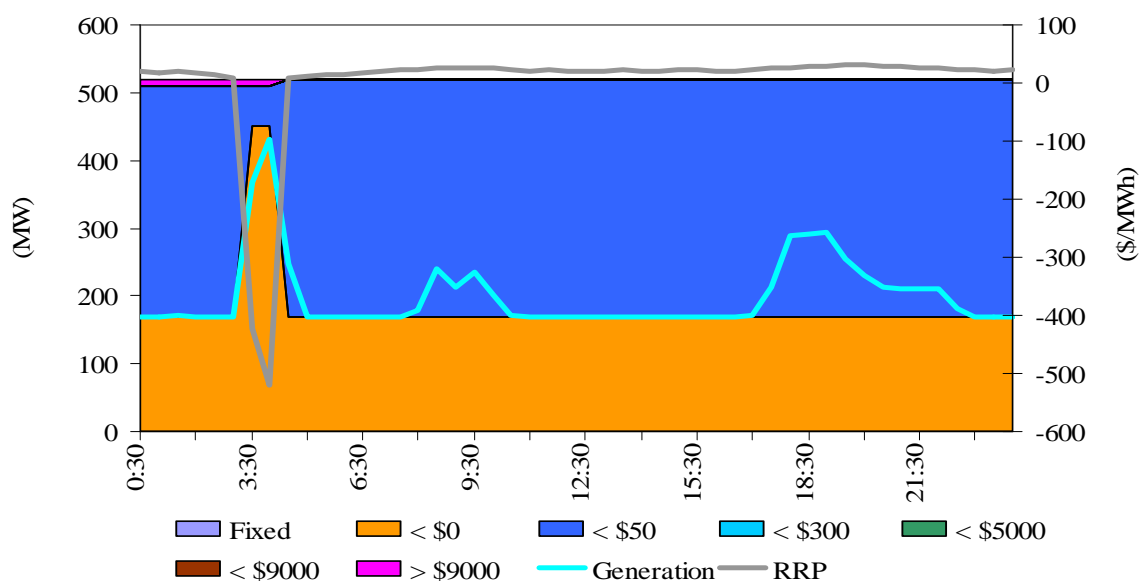
On Thursday 19 August, the spot price in South Australia fell to \$-423/MWh at 3.30 am and \$-519/MWh at 4 am.

Thursday, 19 August

3.30 am	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	-423.14	-623.12	-4.69
Demand (MW)	1109	1112	1119
Available capacity (MW)	2890	2852	2821
4 am	Actual	4 hr forecast	12 hr forecast
Price (\$/MWh)	-519.34	-623.12	-4.69
Demand (MW)	1098	1079	1085
Available capacity (MW)	2847	2854	2827

Day-ahead offers by AGL saw 450 MW (or almost 90 per cent) of capacity at its Torrens Island power station (TIPS) priced at less than \$-623/MWh for the 3.30 am and 4 am trading intervals but only 170 MW of capacity priced below zero for the remainder of the day. This low priced capacity set the price for a number of dispatch intervals during the low priced period. This is highlighted in Figure A1.

Figure A1: Negative bidding by AGL for TIPS on 19 August



Windy conditions saw output from wind generation in South Australia reach 680 MW at 3.30 am. Note that dispatch from the Snowtown and Lake Bonney 2 wind farms was reduced during this period, as the offer prices from these stations, although still less than zero, were higher than the offers from TIPS.

Windy conditions over the last two months, combined with increasing investment in wind generation in South Australia recently, has resulted in the highest wind generation ever in South Australia. Up to June 2010 the highest combined output from wind farms was around 770 MW on 1 March 2010. Since then the output has exceeded 770 MW on 10, 13, 14 and 31 July and 1, 11, 13, 14, 18 and 19 August.

Coincident with this high wind generation AGL offered large amounts of negatively priced capacity at Torrens Island (TIPS) very early in the morning on 10 July and 1, 4, 11 and 19 August. As a result we have seen negative spot prices in South Australia on 10, 13, 14 and 31 July and 1, 4, 11, 16, 18, 19 and 20 August.

Detailed NEM Price and Demand Trends

for Weekly Market Analysis
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Table 1: Financial year to date spot market volume weighted average price

Financial year	QLD	NSW	VIC	SA	TAS
2010-11 (\$/MWh) YTD	21	33	28	30	56
2009-10 (\$/MWh) YTD	27	30	26	27	25
Change*	-22%	10%	7%	10%	121%
2009-10 (\$/MWh)	37	52	42	82	30

Table 2: NEM turnover

Financial year	NEM Turnover** (\$, billion)	Energy (TWh)
2010-11 (YTD)	\$0.927	31
2009-10	\$9.643	206
2008-09	\$9.413	208

Table 3: Recent monthly and quarterly spot market volume weighted average price and turnover

Volume weighted average (\$/MWh)	QLD	NSW	VIC	SA	TAS	Turnover (\$, billion)
Apr-10	22	25	84	32	25	0.625
May-10	22	29	32	31	61	0.509
Jun-10	23	35	33	38	32	0.563
Jul-10	22	28	27	31	31	0.495
Aug-10 (MTD)	20	42	29	29	93	0.432
Q2 2010	22	30	48	34	40	1.697
Q2 2009	32	35	34	35	106	1.918
Change*	-30%	-16%	40%	-5%	-63%	-11.51%

Table 4: ASX energy futures contract prices at end of 23 August

	QLD		NSW		VIC		SA	
	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Q1 2011								
Price on 16 Aug (\$/MW)	44	77	51	83	55	97	68	100
Price on 23 Aug (\$/MW)	44	75	50	82	55	97	68	100
Open interest on 23 Aug	1223	123	2004	225	2093	35	122	0
Traded in the last week (MW)	40	0	76	0	461	0	5	0
Traded since 1 Jan 10 (MW)	3545	114	6027	246	6547	40	203	0
Settled price for Q1 10(\$/MW)	40	65	44	68	50	89	83	160

Table 5: Changes to availability of low priced generation capacity offered to the market

Comparison:	QLD	NSW	VIC	SA	TAS	NEM
June 10 with June 09						
MW Priced <\$20/MWh	959	-520	-482	46	227	230
MW Priced \$20 to \$50/MWh	-743	378	301	-43	345	237
July 10 with July 09						
MW Priced <\$20/MWh	977	-476	1	77	-90	489
MW Priced \$20 to \$50/MWh	-445	328	180	72	382	518
August 10 with August 09 (MTD)						
MW Priced <\$20/MWh	996	-1008	-767	202	-72	-649
MW Priced \$20 to \$50/MWh	-25	596	508	75	292	1446

*Note: These percentage changes are calculated on VWA prices prior to rounding

** Estimated value