WEEKLY ELECTRICITY MARKET ANALYSIS

AUSTRALIAN ENERGY REGULATOR

25 – 31 October 2009

Summary

Average spot prices for the week were around $25/MWh in Queensland, New South Wales and Victoria and around $35/MWh in South Australia and Tasmania.

On Thursday, high temperatures in South Australia saw the demand reach a maximum of 2135 MW at 4.30 pm. The high demand combined with a rebid made by AGL for its Torrens Island units resulted in the 4.40 pm dispatch price reaching the price cap.

At 10.30 am on Friday, a sudden reduction in the output from the non-scheduled Woolnorth wind farm in Tasmania occurred for around 45 minutes. This led to a significant increase in demand, affecting both the ancillary services and energy markets in Tasmania. At 10.40 am, the 5–minute dispatch prices for energy, frequency control raise regulation, raise 6 second and lower 6 second ancillary service prices were all at close to the price cap.

Spot market prices

Figure 1 sets out the volume weighted average prices for the week 25 to 31 October and the financial year to date across the National Electricity Market (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 25 – 31 October	24	27	25	36	35
% change from previous week*	-4	-1	4	41	22
09/10 financial YTD	26	28	25	28	25
% change from 08/09 financial YTD**	-31	-47	-40	-33	-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.

Longer term market trends are attached in Appendix B[1].

Financial markets

Figures 2 to 9 show futures contract[2] prices traded on the Sydney Futures Exchange (SFE) as at close of trade on Monday 2 November. Figure 2 shows the base futures contract prices for the next three calendar years, and the three year average. Also shown are percentage changes[3] compared to the previous week.

[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.

[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.

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Figure 2: Base calendar year futures contract prices ($/MWh)

	QLD		NSW		VIC		SA	
Calendar Year 2010	37	0%	40*	0%	39*	1%	50	0%
Calendar Year 2011	40	-1%	43	-1%	43	-1%	54	0%
Calendar Year 2012	48	0%	51	0%	53	-1%	69	0%
Three year average	42	0%	45	0%	45	0%	58	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 2010 and the 2010 calendar year and the percentage change[4] from the previous week.

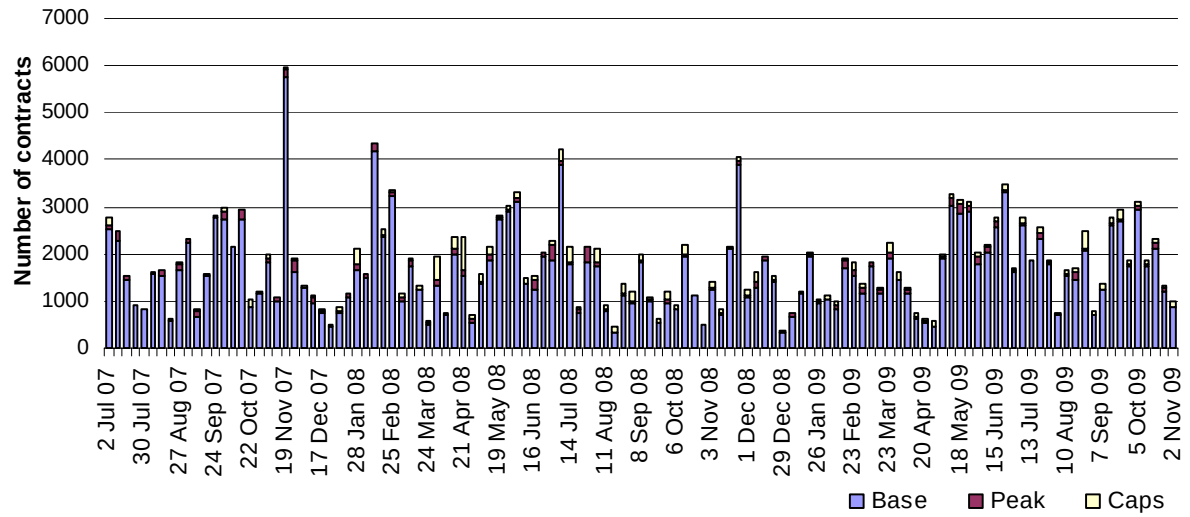
Figure 3: $300 cap contract prices ($/MWh)

	QLD		NSW		VIC		SA	
Q1 2010 (% Change)	23*	-2%	20*	5%	24	0%	42	0%
2010 (% Change)	10	-4%	11	-1%	9	-1%	14	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.

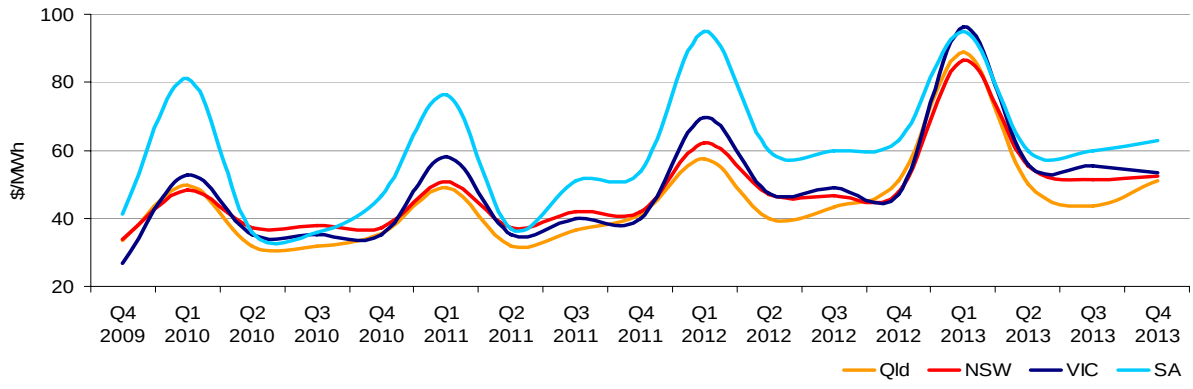
Figure 4: Number of exchange traded contracts per week



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

Figure 5 shows the prices for base contracts for each quarter for the next four financial years.

Figure 5: Quarterly base future prices Q4 2009 – Q3 2013



[4] Calculated on prices prior to rounding.

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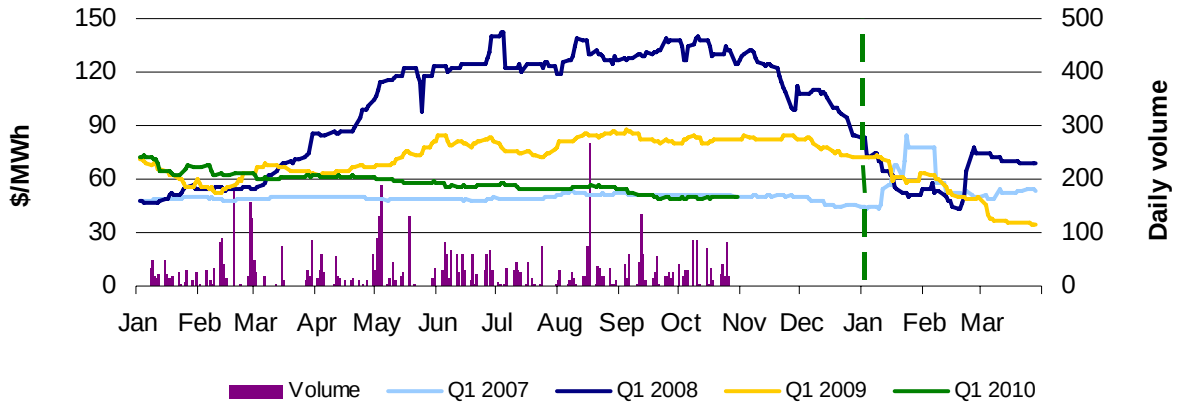
Source: d-cyphaTrade www.d-cyphatrade.com.au

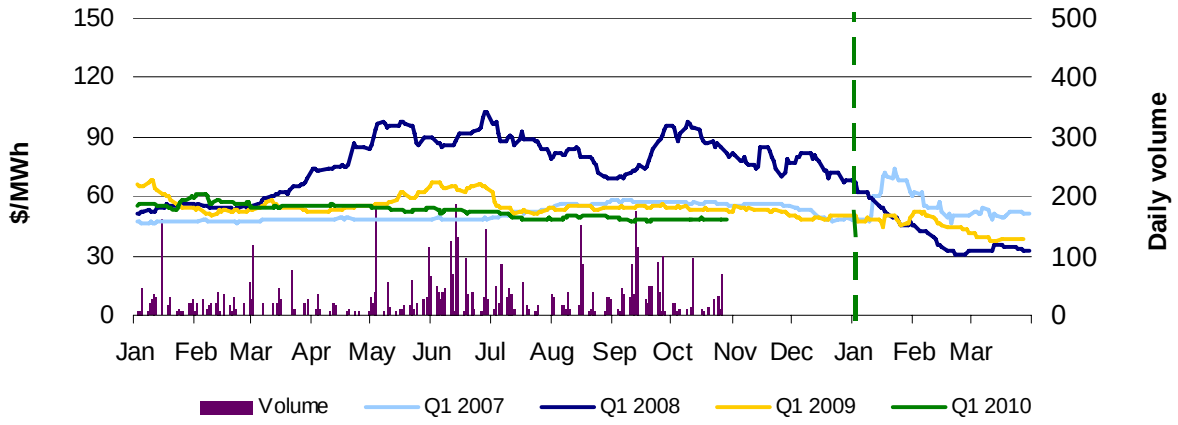
Figures 6-9 compare for each region the closing daily base contract prices for the first quarter of 2007, 2008, 2009 and 2010. Also shown is the daily volume of Q1 2010 base contracts traded. The vertical dashed line signifies the start of the Q1 period for which the contracts are being purchased. To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



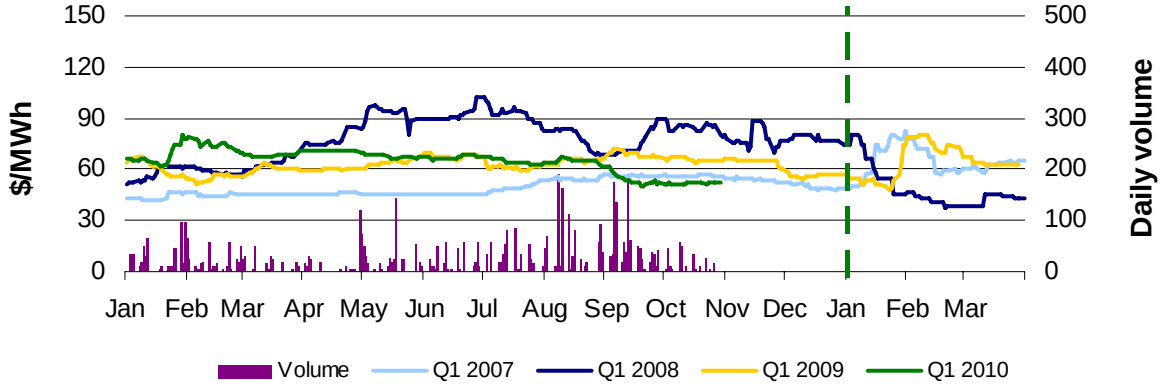
Source: d-cyphaTrade www.d-cyphatrade.com.au

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



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

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



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

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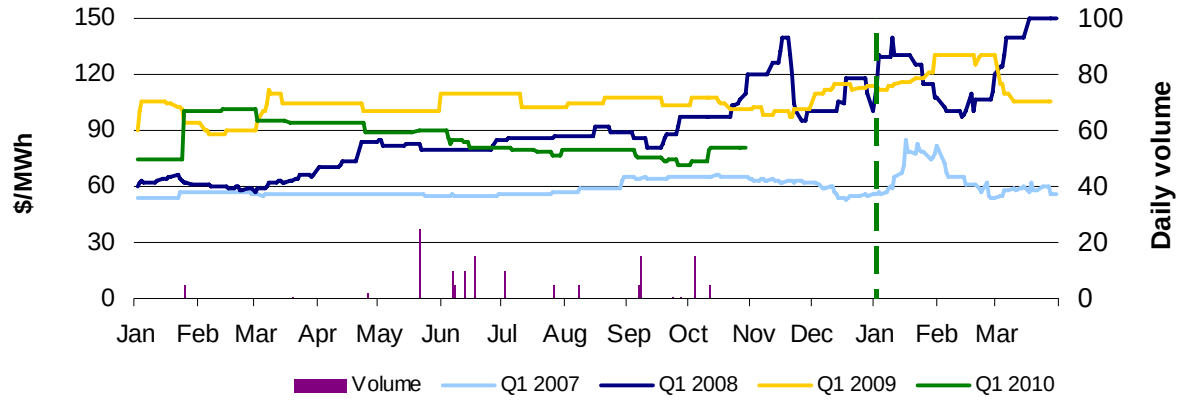
Figure 9: South Australia Q1 2007, 2008, 2009 and 2010



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 32 trading intervals throughout the week where actual prices varied significantly from forecasts[5]. This compares to the weekly average in 2008 of 130 counts. Reasons for these variances are summarised in Figure 10[6].

Figure 10: Reasons for variations between forecast and actual prices

	Availability	Demand	Network	Combination
% of total above forecast	8%	45%	0%	6%
% of total below forecast	32%	8%	0%	1%

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 periods[7]. For example, in Queensland 349 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.

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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	349	-82	220	-23
NSW	176	-306	37	-5
VIC	-144	144	-125	72
SA	71	-5	-60	161
TAS	-108	179	-52	33
TOTAL	344	-70	20	238

Ancillary services market

The total cost of frequency control ancillary services (FCAS) on the mainland for the week was $153 000 or less than one per cent of energy turnover on the mainland.

The total cost of FCAS in Tasmania for the week was $498 000 or about eight per cent of energy turnover in Tasmania. Sixty per cent of this cost accrued over one dispatch interval.

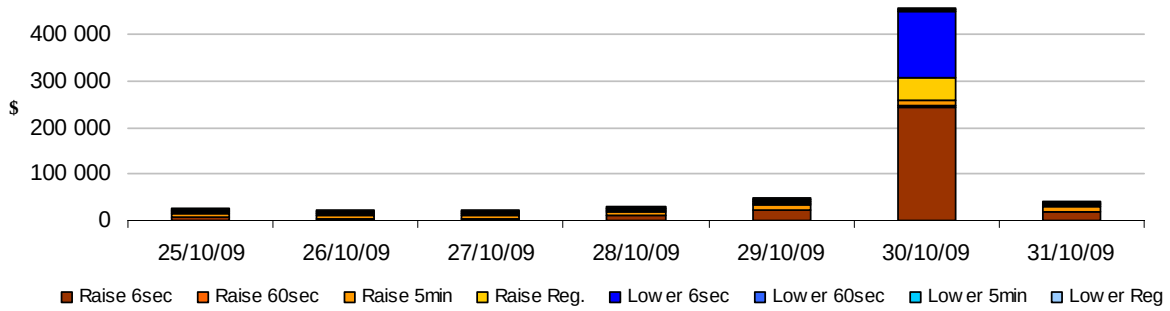
On Friday, at 9.10 am, the loss of both Farrell to Sheffield 220 kV lines in Tasmania was declared a credible contingency. This restricted a number of Tasmanian generators from providing ancillary services as they would have been disconnected in the event of the loss of the contingent lines. At 10.25 am, a constraint used to manage the reclassification was violated and caused a spike in the Raise 6 second service price to around $5000/MWh for two dispatch intervals.

At around 10.30 am Roaring Forties reduced its generation at Woolnorth windfarm (a non-scheduled generator) by around 120 MW (from 120 MW at 10.25 am to zero at 10.40 am). This saw the demand in Tasmania increase rapidly from 1140 MW at 10.35 am to 1207 MW at 10.40 am. The 10.40 am energy dispatch price reached $10 000/MWh. The reduction in output was based on a forecast of high prices for raise contingency FCAS in Tasmania. Each generator is required to pay for these services in proportion to its output at the time.

A change in the dispatch of Basslink saw it transition into the no-go zone and it was unable to transfer FCAS. This led to an increase in local services in Tasmania, which resulted in an increase in the prices for raise regulation service and both 6 second contingency services (from below $35/MWh at 10.35 am to above $9960/MWh at 10.40 am). Prices returned to previous levels at 10.45 am.

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

Figure 12: Daily frequency control ancillary service cost



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25 -31 October 2009

South Australia: There was one occasion where the spot price in South Australia was greater than three times the South Australia weekly average price of $36/MWh and $250/MWh.

Thursday, 29 October

5:00 pm	Actual	4 hr forecast	12 hr forecast
Price ($/MWh)	1706.30	305.20	38.14
Demand (MW)	2107	2060	1944
Available capacity (MW)	2130	2147	2216

Conditions at the time saw demand 163 MW higher than that forecast 12 hours ahead and available capacity close to forecast.

High temperatures on the day (approximately 32ºC) saw demand reaching a maximum of 2135 MW at 4.30 pm. At 5 pm the available capacity was 2130 MW with 460 MW priced above $9000/MWh and only 77 MW of capacity priced between $30/MWh and $9000/MWh. Over 1100 MW of base and intermediate generation was not available on the day, including six Torrens Island units (around 880 MW)and Northern Power station unit one (270 MW). The tight supply-demand condition saw minor changes in demand and generation having a significant impact on price.

At 2.06 pm, AGL rebid 280 MW of capacity across its Torrens Island B units three and four from prices below $35/MWh to above $9000/MWh effective for the 3.30 pm to 5 pm trading intervals. The reason given was “10:00N Predispatch demand change::increase in demand”. This meant that 70 per cent of its available capacity (280 MW of its 400 MW) was priced at close to the price cap.

The 5-minute price spiked from $50/MWh at 4.45 pm to $10 000/MWh at 4.50 pm. The price returned to previous levels at 4.55 pm. .

There was no other significant rebidding.

Tasmania: There was one occasion where the spot price in Tasmania was greater than three times the Tasmania weekly average price of $35/MWh and $250/MWh.

Friday, 30 October

11:00 am	Actual	4 hr forecast	12 hr forecast
Price ($/MWh)	1704.99	38.18	38.20
Demand (MW)	1207	1155	1160
Available capacity (MW)	2251	2261	2261

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

A description of the circumstances of the event is detailed in the ancillary services market section.

There was no significant rebidding.

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Detailed NEM Price and Demand Trends

for Weekly Market Analysis
25 October - 31 October 2009

AUSTRALIAN ENERGY REGULATOR

Table 1: Financial year to date spot market volume weighted average price

Financial year	QLD	NSW	VIC	SA	TAS
2009-10 ($/MWh) (YTD)	26	28	25	28	25
2008-09 ($/MWh) (YTD)	38	53	42	41	45
Change*	-31%	-47%	-40%	-33%	-45%
2008-09 ($/MWh)	36	43	49	69	62

Table 2: NEM turnover

Financial year	NEM Turnover** ($, billion)	Energy (TWh)
2009-10 (YTD)	$1.836	68
2008-09	$9.413	208
2007-08	$11.125	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)
Jun-09	33	37	31	33	194	0.746
Jul-09	29	34	28	29	27	0.539
Aug-09	24	25	23	24	22	0.418
Sep-09	25	26	24	28	22	0.406
Oct-09	27	28	26	30	26	0.459
Q3 2009	26	28	25	27	24	1.377
Q3 2008	36	41	42	42	44	2.226
Change*	-29%	-31%	-41%	-36%	-46%	-38.16%

Table 4: ASX energy futures contract prices at 2 November

	QLD		NSW		VIC		SA	
Q1 2010	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Price on 26 Oct ($/MW)	50	83	49	80	52	91	81	145
Price on 2 Nov ($/MW)	50	83	49	80	53	93	81	160
Open interest on 02 Nov	2752	140	2572	71	2860	215	77	20
Traded in the last week (MW)	120	0	114	0	20	0	0	20
Traded since 1 Jan 09 (MW)	5436	250	5392	113	5308	321	135	20
Settled price for Q1 09($/MW)	35	48	38	48	62	114	102	200

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

Comparison:	QLD	NSW	VIC	SA	TAS	NEM
August 09 with August 08						
MW Priced <$20/MWh	-131	-261	-343	67	513	-155
MW Priced $20 to $50/MWh	47	140	-194	-58	251	187
September 09 with September 08						
MW Priced <$20/MWh	-236	-1137	-194	6	507	-1054
MW Priced $20 to $50/MWh	-7	981	10	-82	90	991
October 09 with October 08						
MW Priced <$20/MWh	156	-288	247	48	29	193
MW Priced $20 to $50/MWh	-140	227	110	-45	702	854

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