WEEKLY MARKET ANALYSIS

AUSTRALIAN ENERGY REGULATOR

28 Dec 2008 – 3 Jan 2009

Summary

Average spot prices on the mainland ranged from $19/MWh in Victoria to $27/MWh in Queensland. The average spot price in Tasmania was $30/MWh.

Spot market prices

Figure 1 sets out the volume weighted average prices for 28 December to 3 January and the financial year to date across the National Electricity Market. 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)

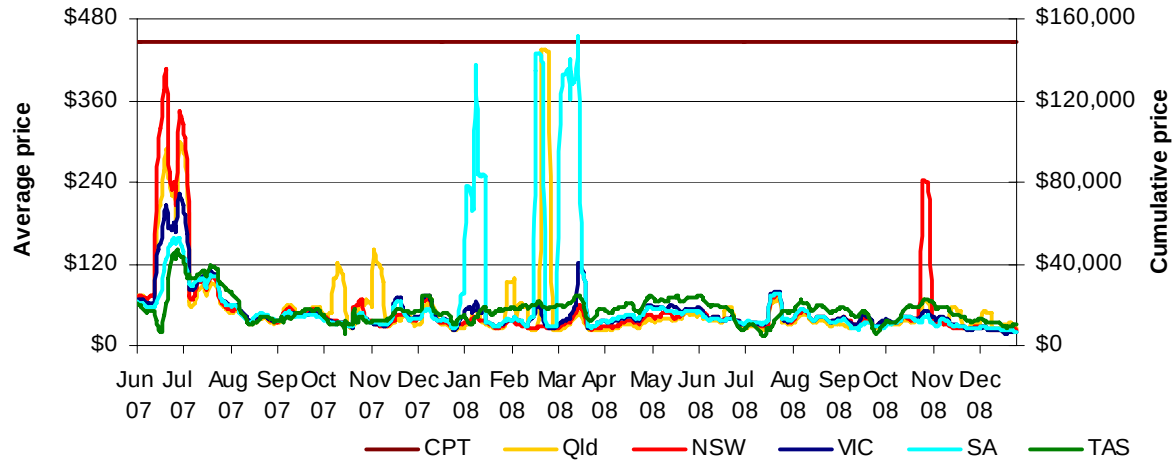
	Qld	NSW	VIC	SA	Tas
Ave price for 28 December – 3 January	27	24	19	20	30
Financial year to 3 January	38	45	38	37	44
% change from previous week*	-14%	16%	-2%	-18%	8%
% change from year to date**	-32%	-10%	-28%	-41%	-20%

*The percentage change between last week's average spot price and the average price for the previous week.
**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.

The AER provides further information if the spot price exceeds three times the weekly average. Details of these events are attached in Appendix A. Longer term market trends are attached in Appendix B.

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

Figure 2: Seven day rolling cumulative price and CPT



Financial markets

Figures 3 to 10 show futures contract[1] prices traded on the Sydney Futures Exchange (SFE) as at close of trade on Monday 5 January. Figure 3 shows the base futures contract prices for the next three financial years, and the three year average. Also shown are percentage changes compared to a week earlier.

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

	QLD		NSW		VIC		SA	
Financial 2009-10	48	-1%	47	-1%	49	-2%	57	0%
Financial 2010-11	60	0%	60	-1%	63	-1%	62	0%
Financial 2011-12	64	4%	63	3%	65	2%	65	2%
Three year average	57	1%	57	0%	59	0%	61	1%

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

Figure 4 shows the $300 cap contract price for the first quarter of 2009 and the 2009 calendar year and the change from the previous week.

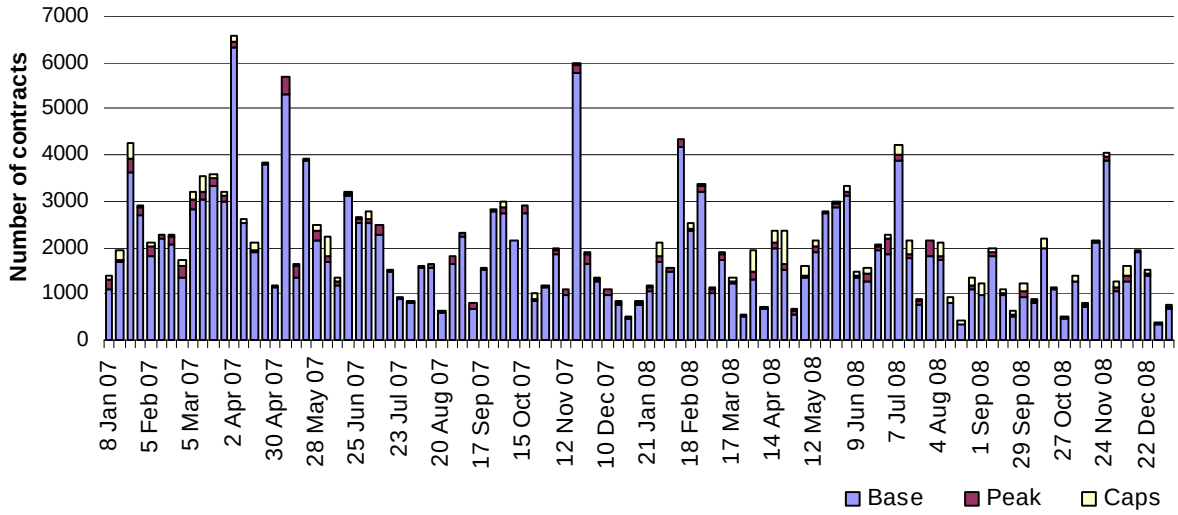
Figure 4: $300 cap contract prices ($/MWh)

	QLD		NSW		VIC		SA	
Q1 2009 price	36	-10%	14	0%	18	0%	75	0%
Calendar 2009	14	-11%	9	0%	9	0%	23	0%

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

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

Figure 5: Number of exchange traded contracts per week

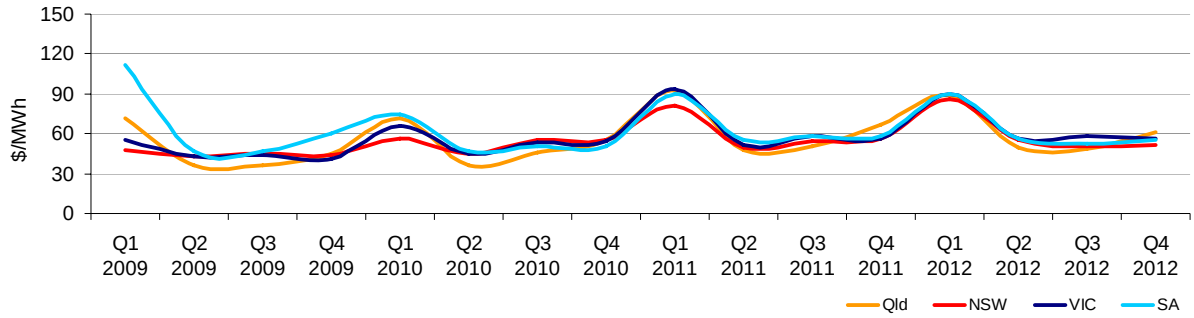


Source: d-cyphaTrade www.d-cyphatrade.com.au

[1] 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.

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

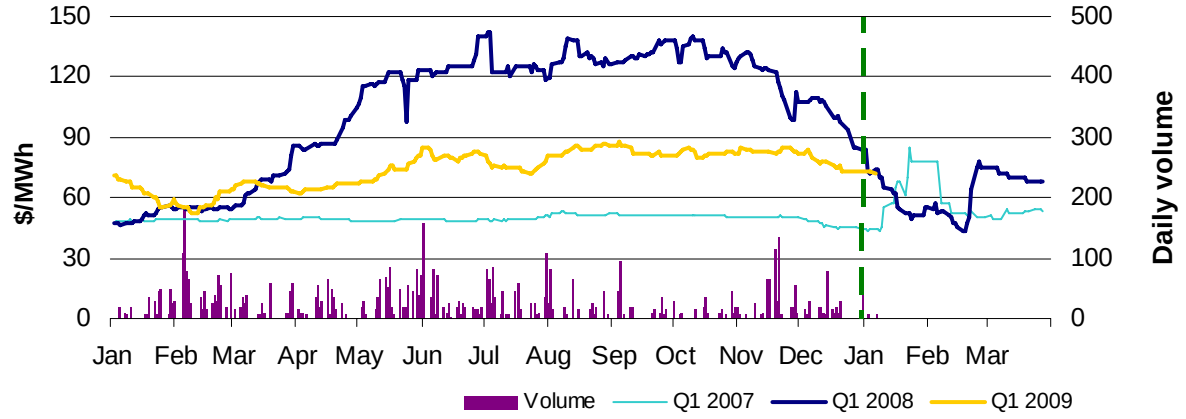
Figure 6: Quarterly base future prices 2009 - 2012



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

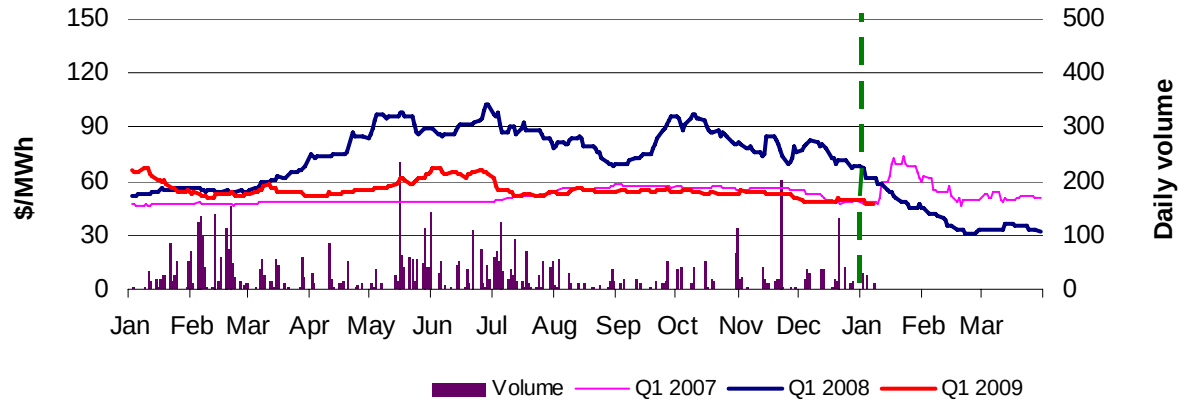
Figures 7-10 compare for each region the closing daily base contract prices for the first quarter of 2007, 2008 and 2009. Also shown is the daily volume of Q1 2009 base contracts traded. The vertical dashed line signifies the start of the Q1 period.

Figure 7: Queensland Q1 2007, 2008 and 2009



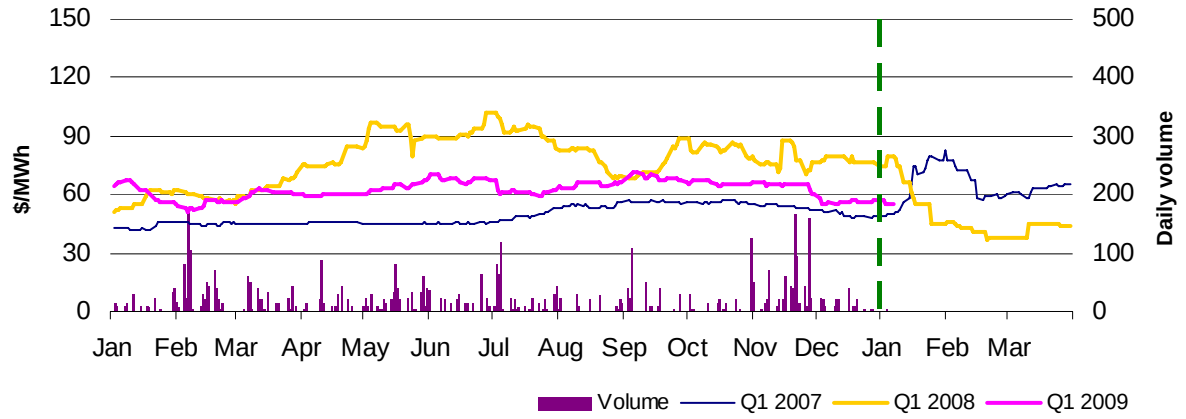
Source: d-cyphaTrade www.d-cyphatrade.com.au

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



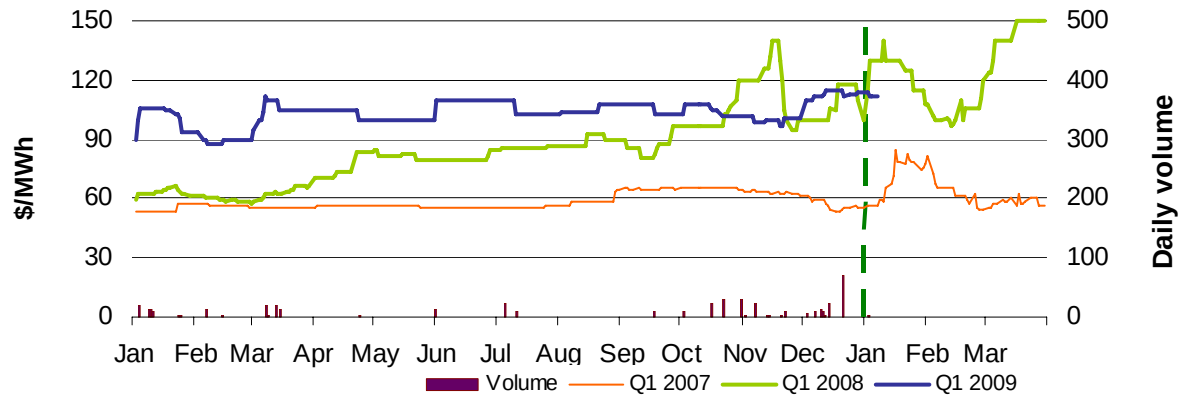
Source: d-cyphaTrade www.d-cyphatrade.com.au

Figure 9: Victoria Q1 2007, 2008 and 2009



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

Figure 10: South Australia Q1 2007, 2008 and 2009



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

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 NEMMCO and the actual spot price and, if there is a variation, state why the AER considers that 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 76 trading intervals where actual prices significantly varied from forecasts[2] throughout the week. This compares to the weekly average in 2008 of 130 counts. Reasons for these variances are summarised in Figure 11[3].

Figure 11: Reasons for variations between forecast and actual prices

	Availability	Demand	Network	Combination
% of total above forecast	4%	27%	1%	4%
% of total below forecast	43%	12%	1%	8%

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

3 The table summarises (as a percentage) the number of times when the actual price differs significantly from the forecast price four or twelve 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 twelve and four 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 12 shows changes to the offer price and available capacity of generation in each region for the peak periods only[4]. For example, in Queensland 69 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 12: Changes in available generation compared to the previous week during peak times

$/MWh	<20	Between 20 and 50	Total availability	Change in average demand
Queensland	-69	83	56	635
New South Wales	-813	-230	-701	101
Victoria	-140	155	-116	-494
South Australia	123	-115	98	-257
Tasmania	-74	-27	-7	-57
Total	-973	-134	-670	-72

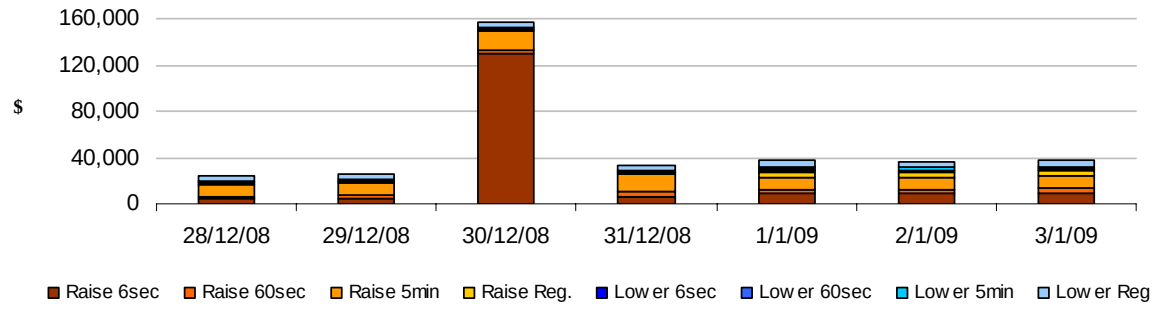
Ancillary services market

The total cost of frequency control ancillary services on the mainland for the week was $191 000 or less than one per cent of turnover in the energy market.

The total cost of ancillary services in Tasmania for the week was $159 000 or three per cent of turnover in the energy market in Tasmania. Around 80 per cent of this cost was accrued over one hour on the evening of Tuesday 30 December when the price of the Raise 6 Second service exceeded $4350/MW as a result of a reduction in the availability at Gordon, the main provider of this service.

Figure 13 shows the daily breakdown of cost for each frequency control ancillary service for the NEM.

Figure 13: Daily frequency control ancillary service cost



Australian Energy Regulator
January 2009

[4] Peak period is defined as between 7 am and 10 pm on weekdays, which aligns with the SFE contract definition.

Queensland: There were five occasions where the spot price in Queensland was greater than three times the Queensland weekly average price of $27/MWh.

Tuesday, 30 December

5:30 am	Actual	4 hr forecast	12 hr forecast
Price ($/MWh)	326.92	18.00	18.00
Demand (MW)	4782	4895	4917
Available capacity (MW)	9308	9606	9606

Conditions at the time saw demand 110 MW less than that forecast four hours ahead and available capacity 300 MW less than forecast.

At 1.31 am, Millmerran Energy Trader reduced the available capacity at its Millmerran unit two by 190 MW. All of this capacity was below $10/MWh. The reason given was "1:31 Change Plant Conditions".

According to NEMMCO, Powerlink provided a step change reduction in the rating of the Calvale to Wurdong 275 kV transmission line, near Gladstone. This caused a system normal constraint to bind at 5.20 am, forcing flow counter-price across QNI into New South Wales. The rating change also resulted in a number of lower-priced generators being constrained off and higher-priced generators constrained on. As a result of limited ramp rate capability, the five-minute dispatch price increased from $20/MWh at 5.15 am to $1866/MWh at 5.20 am, with prices returning to previous levels at 5.25 am.

There was no other significant rebidding.

Tuesday, 30 December

11:00 am	Actual	4 hr forecast	12 hr forecast
Price ($/MWh)	96.62	29.87	34.28
Demand (MW)	7225	7161	7254
Available capacity (MW)	9181	9185	9475

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

At 10.45 am and 11 am, a system normal constraint used to avoid overloading the Lismore-Dunoon line in northern New South Wales bound. This binding constraint changed the direction of flow across Directlink, into Queensland for the two dispatch intervals, 10.45 am and 11 am. A system normal constraint used to manage the loss of the Calvale-Wurdong line was also binding at the time and forcing counter-price flow into New South Wales. These constraints also resulted in a number of lower-priced generators being constrained off and higher-priced generators constrained on and the dispatch price increased from around $20/MWh to $250/MWh at 10.45 am and $220/MWh at 11 am.

There was no significant rebidding.

Thursday, 1 January

1:30 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	98.73	34.65	30.96
Demand (MW)	7584	7277	7303
Available capacity (MW)	9774	9539	10 080
2:00 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	142.79	38.53	31.59
Demand (MW)	7611	7322	7408
Available capacity (MW)	9769	9523	10 079
2:30 pm	**Actual**	**4 hr forecast**	**12 hr forecast**
Price ($/MWh)	95.49	43.49	32.02
Demand (MW)	7594	7395	7477
Available capacity (MW)	9978	9513	10 079

Conditions at the time saw demand 300 MW and available capacity up to 460 MW greater than forecast four hours ahead.

After the unplanned loss of Callide unit three early in the morning Callide Power Trading had problems returning the unit to service. Up to 405 MW of capacity was bid at times to be available during this period, all of which was priced below $30/MWh, but only 200 MW was available at the time of high prices.

At 12.49 pm, Stanwell Corporation rebid 125 MW of capacity at Gladstone units two, three, five and six from prices below $30/MWh to prices above $220/MWh. The reason given was “1246 Extend previous bid::Change avail/MW distrib”.

There was no other significant rebidding.

Detailed NEM Price and Demand Trends

AUSTRALIAN ENERGY REGULATOR

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

Financial year	QLD	NSW	VIC	SA	TAS
2008-09 ($/MWh) YTD	38	45	38	37	44
2007-08 ($/MWh) YTD	56	50	52	54	55
Change	-32%	-10%	-27%	-31%	-21%
2007-08 ($/MWh)	58	44	51	101	57

Table 2: NEM turnover

Financial year	NEM Turnover* ($, billion)	Energy (TWh)
2008-09 YTD	$4.4	107
2007-08	$11.1	208
2006-07	$12.7	206
Change (2006-07 to 2007-08)	-12%	0.8%

* estimated value

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)
Aug-08	37	42	42	44	56	0.79
Sep-08	32	37	38	34	46	0.61
Oct-08	43	94	41	37	47	1.05
Nov-08	40	32	36	34	51	0.60
Dec-08	36	25	23	26	33	0.48
Q3 2008	36	41	42	42	44	2.23
Q3 2007	56	59	60	62	65	3.17
Change	-35%	-31%	-30%	-31%	-32%	

Table 4: ASX energy futures contract prices at 5 January

	QLD		NSW		VIC		SA	
Q1 2009	Base	Peak	Base	Peak	Base	Peak	Base	Peak
Price on 29 Dec ($/MW)	73	134	50	77	57	93	114	200
Price on 05 Jan ($/MW)	72	134	47	75	55	92	112	200
Open interest on 05 Jan	2440	248	2711	211	2296	469	262	20
Traded in the last week (MW)	12	25	36	30	5	0	5	0
Traded since 1 Jan 08	5822	519	6113	260	4732	782	519	40
Settled price for Q1 08($/MW)	68	97	32	42	43	65	152	322

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

Comparison:	QLD	NSW	VIC	SA	TAS	NEM
October 08 with October 07						
MW Priced <$20	248	-230	-138	112	-356	-364
MW Priced $20 to $50	357	-325	150	45	-36	191
November 08 with November 07						
MW Priced <$20	-175	391	26	4	-62	183
MW Priced $20 to $50	450	25	-41	10	-27	417
December 08 with December 07						
MW Priced <$20	-157	515	729	-79	89	1097
MW Priced $20 to $50	343	458	-149	110	120	882