Electricity Report

1 to 7 December 2013

AUSTRALIAN ENERGY REGULATOR

Introduction

The AER is required to publish the reasons for significant variations between forecast and actual price and is responsible for monitoring activity and behaviour in the National Electricity Market. The Electricity Report forms an important part of this work. The report contains information on significant price variations, movements in the contract market, together with analysis of spot market outcomes and rebidding behaviour. By monitoring activity in these markets, the AER is able to keep up to date with market conditions and identify compliance issues.

Spot market prices

Figure 1 shows the volume weighted average (VWA) prices for the current week (with prices shown in Table 1) and the preceding 12 weeks, as well as the VWA price over the previous 3 financial years.

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

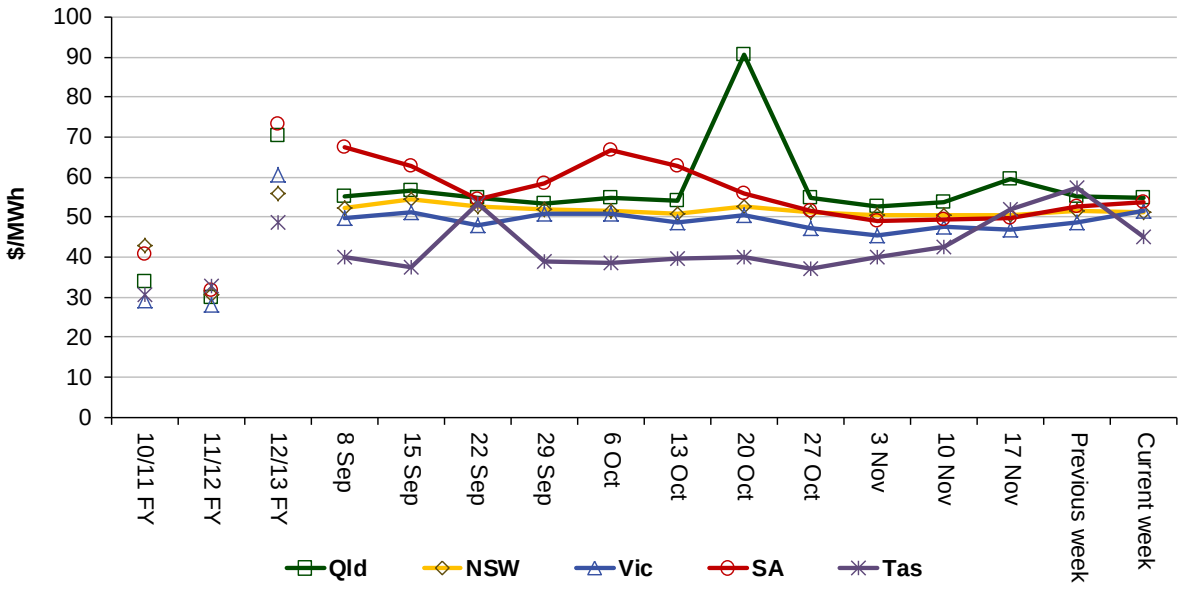


Table 1: Volume weighted average spot prices by region ($/MWh)

Region	Qld	NSW	Vic	SA	Tas
Current week	55	51	51	54	45
12-13 financial YTD	57	59	66	65	49
13-14 financial YTD	60	54	52	64	45

Longer-term statistics tracking average spot market prices are available on the AER website.

Spot market price forecast 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 participants react to changing market conditions. A key focus is whether the actual price differs significantly from the forecast price either four or 12 hours ahead. These timeframes have been chosen as indicative of the time frames within which different technology types may be able to commit (intermediate plant within four hours and slow start plant within 12 hours).

There were 32 trading intervals throughout the week where actual prices varied significantly from forecasts. This compares to the weekly average in 2012 of 60 counts and the average in 2011 of 78. Reasons for the variations for this week are summarised in Table 2. Based on AER analysis, 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.

Table 2: Reasons for variations between forecast and actual prices

Reason for variation	Availability	Demand	Network	Combination
% of total above forecast	4	28	0	0
% of total below forecast	68	0	0	0

Note: Due to rounding, the total may not be exactly 100 per cent

Generation and bidding patterns

The AER reviews generator bidding as part of its market monitoring to better understand the drivers behind price variations. Figures 2 to 6 show, the total generation dispatched and the amounts of capacity offered within certain price bands for each 30 minute trading interval in each region.

Figure 2: Queensland generation and bidding patterns

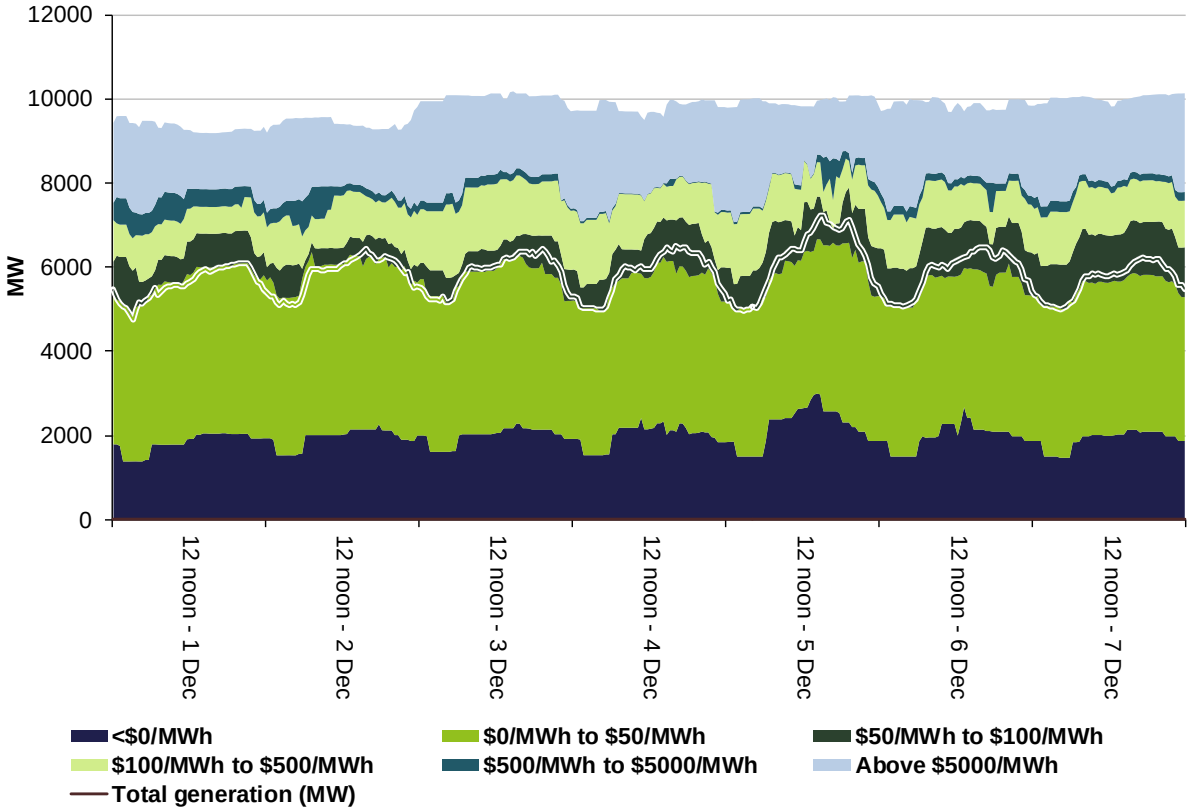


Figure 3: New South Wales generation and bidding patterns

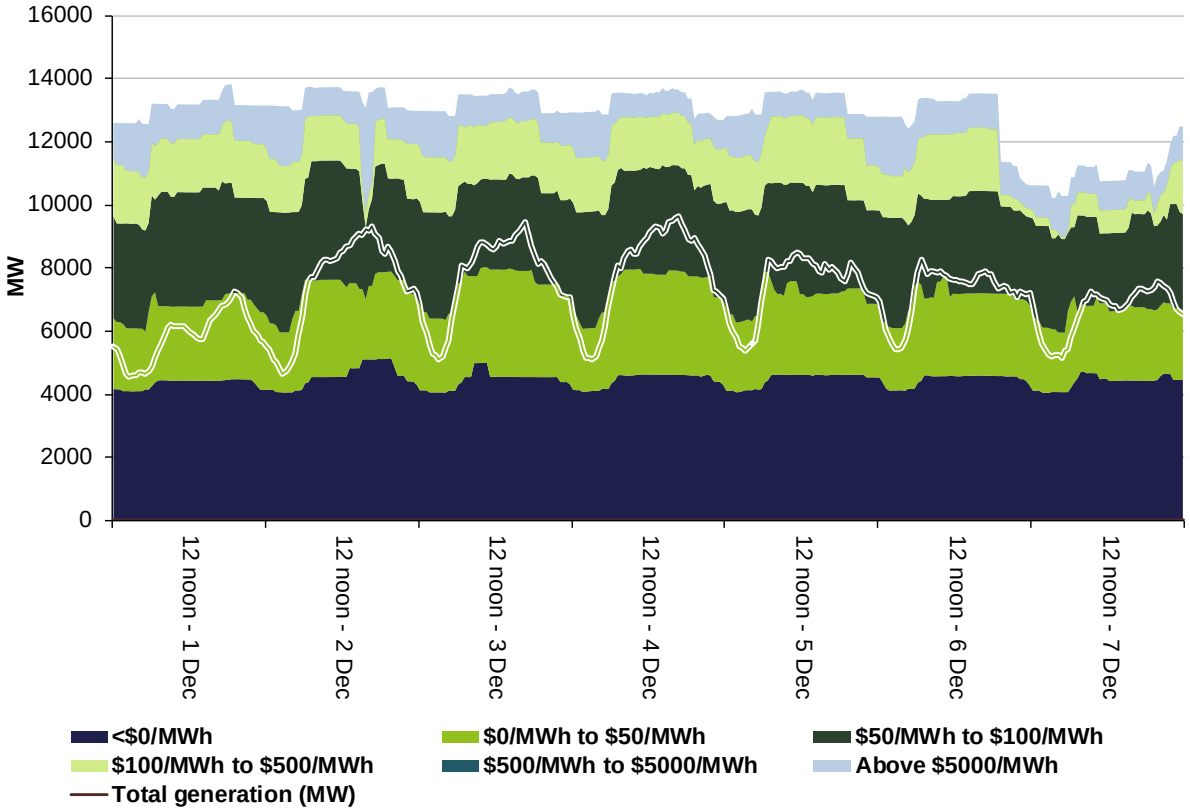


Figure 4: Victoria generation and bidding patterns

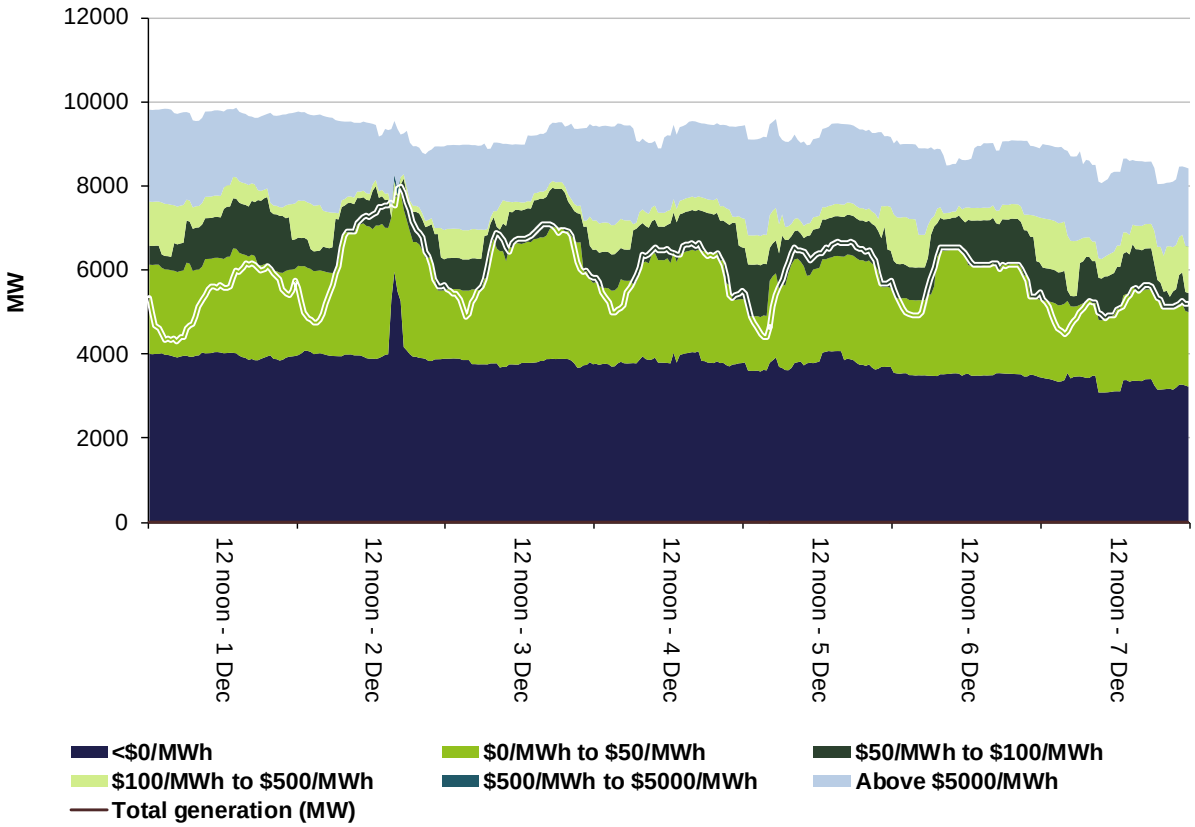


Figure 5: South Australia generation and bidding patterns

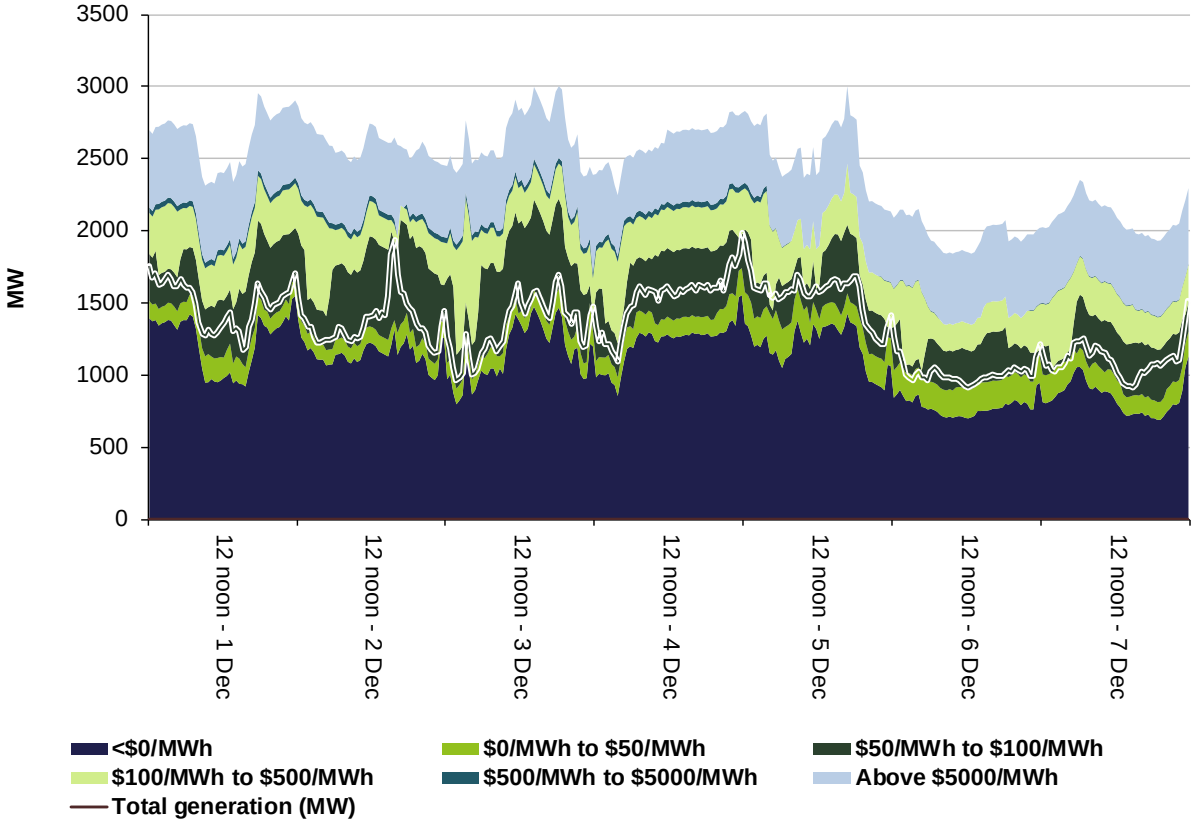
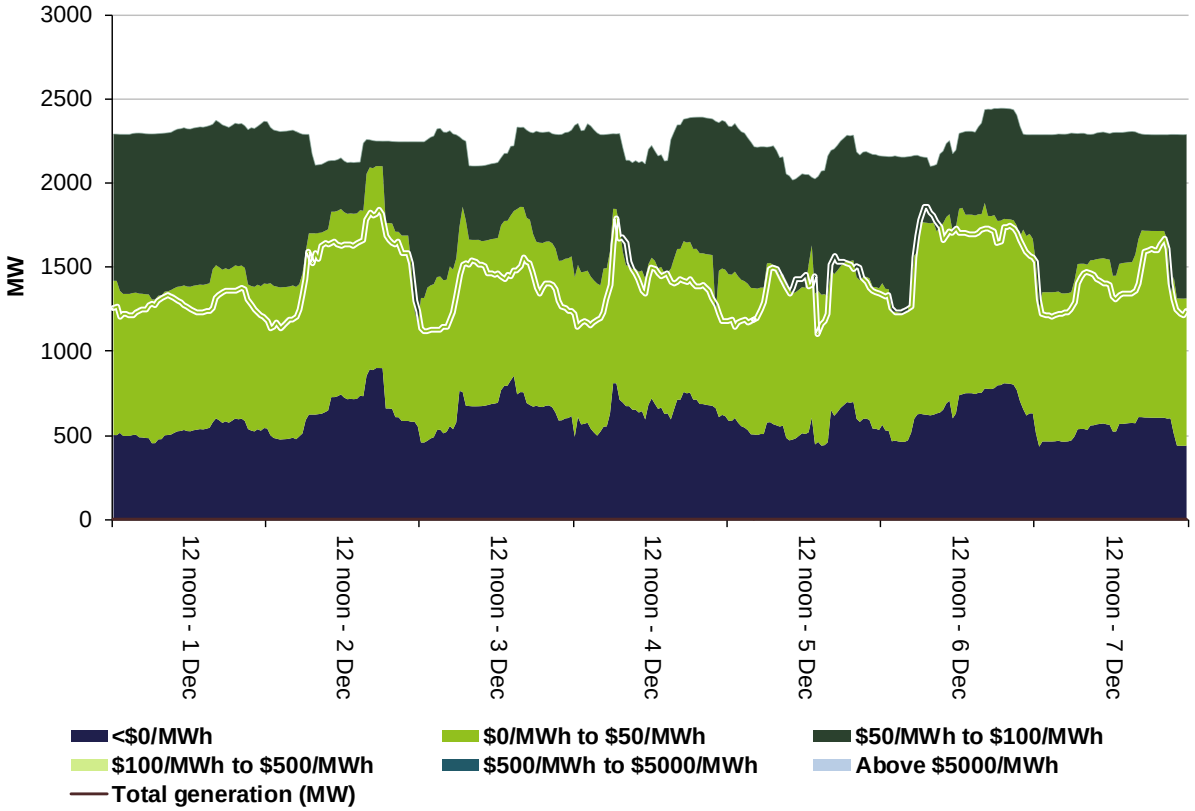


Figure 6: Tasmania generation and bidding patterns



Frequency control ancillary services markets

Frequency control ancillary services (FCAS) are required to maintain the frequency of the power system within the frequency operating standards. Raise and lower regulation services are used to address small fluctuations in frequency, while raise and lower contingency services are used to address larger frequency deviations. There are six contingency services:

- *fast services*, which arrest a frequency deviation within the first 6 seconds of a contingent event (raise and lower 6 second)
- *slow services*, which stabilise frequency deviations within 60 seconds of the event (raise and lower 60 second)
- *delayed services*, which return the frequency to the normal operating band within 5 minutes (raise and lower 5 minute) at which time the five minute dispatch process will take effect.

The Electricity Rules stipulate that generators pay for raise contingency services and customers pay for lower contingency services. Regulation services are paid for on a “causer pays” basis determined every four weeks by AEMO.

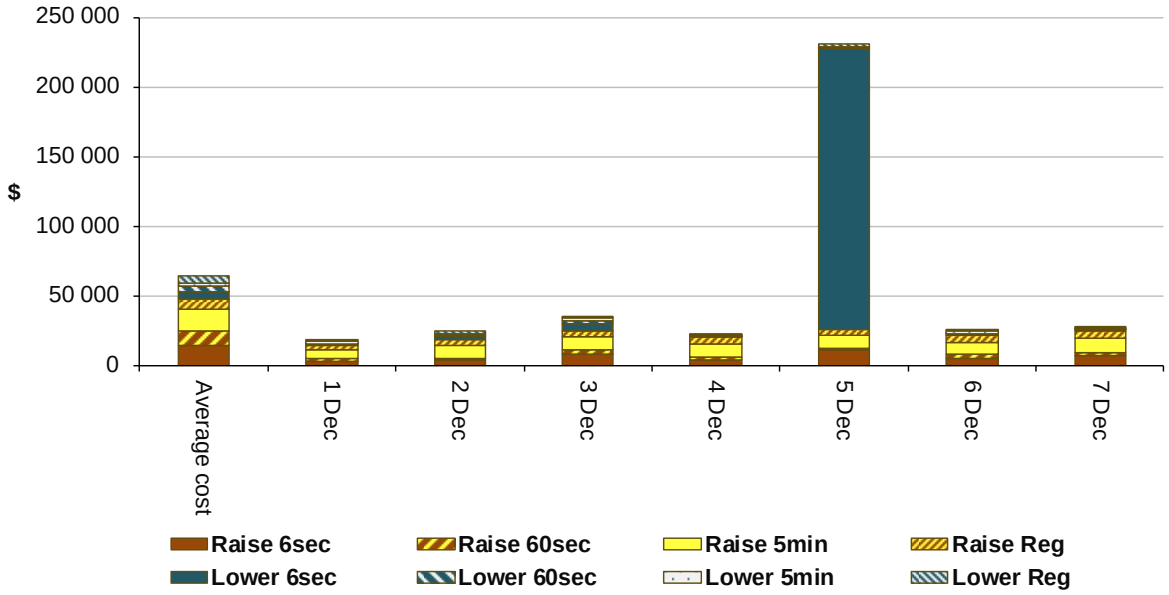
The total cost of FCAS on the mainland for the week was $144 000 or less than 1 per cent of energy turnover on the mainland.

In Tasmania (which requires dedicated services for much of the time) the total cost for the week was $240 500 or around 3 per cent of energy turnover in Tasmania. A majority of this cost ($201 000) was accrued on 5 December for lower 6 second services. At 2.05 pm Basslink entered the no-go zone. This means that Tasmania had to source its FCAS locally as it could not be sourced across Basslink. This saw the local requirement for lower 6 second services increase from zero at 2 pm to 182 MW at

2.05 pm. With only around 15 MW of lower 6 second services available at prices less than the price cap, high-price capacity was dispatched which saw the price reach the cap at 2.05 pm.

Figure 7 shows the daily breakdown of costs for each service, as well as the average daily costs for the previous financial year.

Figure 7: Daily frequency control ancillary service cost



Detailed market analysis of significant price events

We provide more detailed analysis of events where the spot price was greater than three times the weekly average price in a region and above $250/MWh or was below -$100/MWh.

Victoria

There was one occasion where the spot price in Victoria was greater than three times the Victoria weekly average price of $51/MWh and above $250/MWh.

Table 3: Victoria, Monday 2 December

4 PM	Actual	4 hr forecast	12 hr forecast
Price ($/MWh)	443.10	59.90	61.56
Demand (MW)	8246	7743	7894
Available capacity (MW)	9455	9504	9557

Conditions at the time saw demand 503 MW higher than forecast four hours ahead. Available capacity was close to forecast. Prices were reflected in South Australia.

At 3.34 pm, effective from 3.45 pm, AGL rebid a total of 170 MW of available capacity at Loy Yang A1, A3 and A4 from $44/MWh to the price cap. The reason given was “14:30A CHG in forecast::PD demand increase VI+200”.

A constraint used to avoid the voltage collapse on the loss of the largest generating unit in Victoria or Basslink bound at 3.55 pm and 4 pm. This caused flows from New South Wales into Victoria to reduce from 232 MW at 3.50 pm to 129 MW at 3.55 pm.

This saw the five minute price at 3.55 pm reach $2300/MWh.

There was no other significant rebidding.

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 $54/MWh and above $250/MWh.

Table 3: South Australia, Monday 2 December

4 PM	Actual	4 hr forecast	12 hr forecast
Price ($/MWh)	443.57	67.34	69.16
Demand (MW)	1814	1803	1749
Available capacity (MW)	2641	2550	2531

Demand and available capacity were close to forecast.

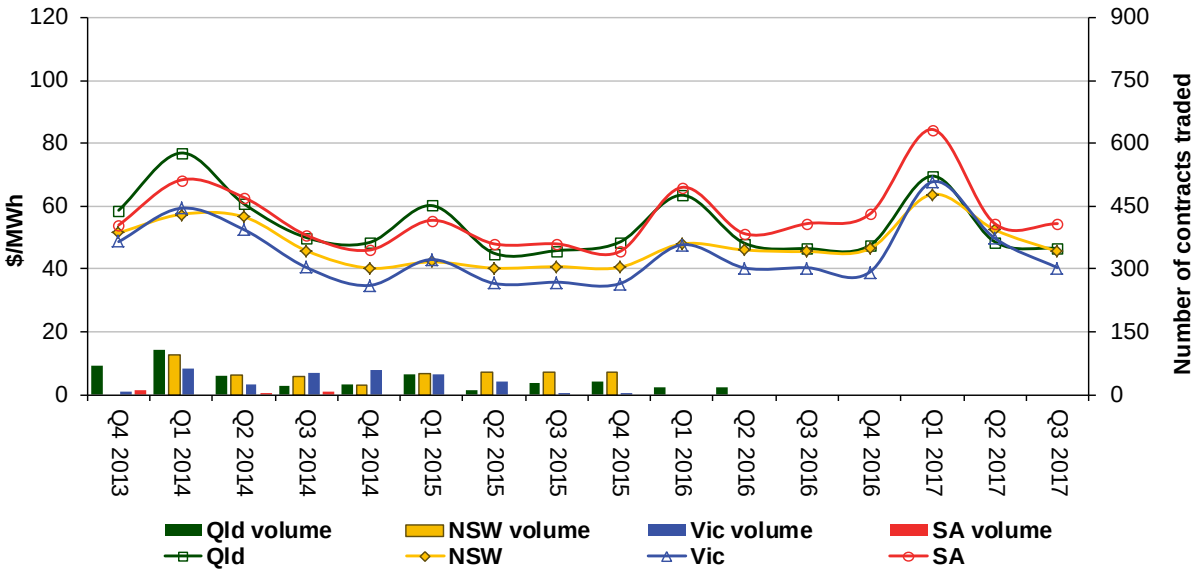
This event coincided with the high price event in Victoria. This event is explained in the Victorian section.

There was no significant rebidding.

Financial markets

Figure 8 shows for all mainland regions the prices for base contracts (and total traded quantities for the week) for each quarter for the next four financial years.

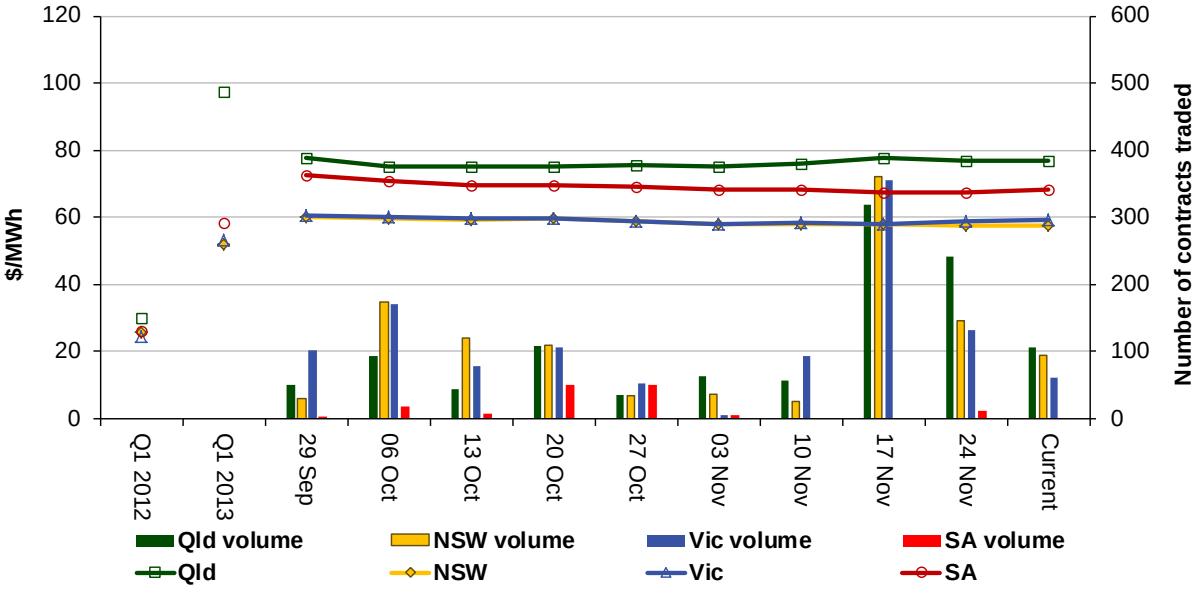
Figure 8: Quarterly base future prices Q4 2013 – Q3 2017



Source: ASXEnergy.com.au

Figure 9 shows how the price for each regional Quarter 1 2014 base contract has changed over the last 10 weeks (as well as the total number of trades each week). The closing Quarter 1 2012 and Quarter 1 2013 prices are also shown.

Figure 9: Price of Q1 2014 base contracts over the past 10 weeks (and the past 2 years)



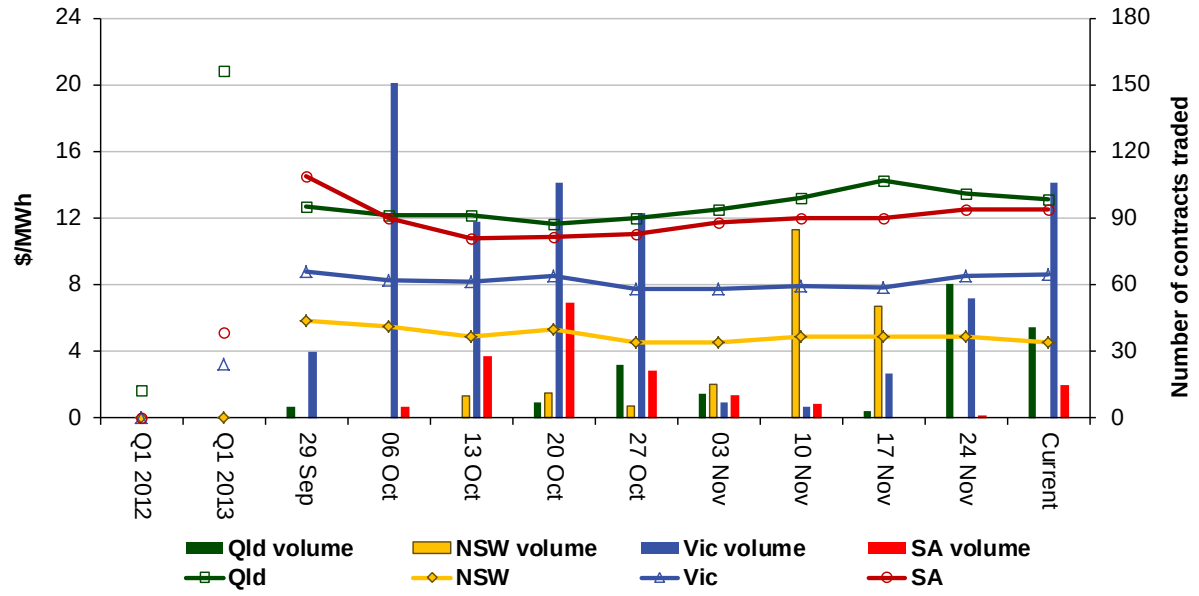
Note: Base contract prices are shown for each of the current week and the previous 9 weeks, with average prices shown for yearly periods 1 and 2 years prior to the current year

Source: ASXEnergy.com.au

Prices of other financial products (including longer-term price trends) are available in the Industry statistics section of our website.

Figure 10 shows how the price for each regional Quarter 1 2014 cap contract has changed over the last 10 weeks (as well as the total number of trades each week). The closing Quarter 1 2012 and Quarter 1 2013 prices are also shown. The cap contracts limit exposure to extreme spot prices (above $300/MWh) and is an indicator of the cost of risk management.

Figure 10: Price of Q1 2014 cap contracts over the past 10 weeks (and the past 2 years)



Source: ASXEnergy.com.au

Australian Energy Regulator

January 2014