Spot prices greater than $5000/MWh

AUSTRALIAN ENERGY REGULATOR

South Australia: 31 March 2009

Introduction

The AER is required to publish a report covering the circumstances in which the spot price exceeds $5000/MWh, pursuant to clause 3.13.7 (d) of the Rules. That report should:

- describe significant factors contributing to the spot price exceeding $5000/MWh, including withdrawal of generation capacity and network availability;
- assess whether rebidding pursuant to clause 3.8.22 contributed to the spot price exceeding $5000/MWh;
- identify the marginal scheduled generating units; and
- identify all units with offers for the trading interval equal to or greater than $5000/MWh and compare these dispatch offers to relevant dispatch offers in previous trading intervals.

Summary/Assessment

On Tuesday 31 March the spot price in South Australia reached $5022/MWh for the 5 pm trading interval due primarily to an unplanned outage at Flinders Power's Northern Power Station, the largest generator in South Australia. This resulted in the dispatch of high priced generation for four five-minute dispatch intervals.

Rebidding did not contribute to the high price.

Generator offers and rebidding

At around 4.25 pm, unit two at Northern Power Station tripped from full load of 270 MW. At 4.29 pm, effective from 4.40 pm, Flinders Power submitted a rebid reducing the available capacity of Northern Power Station unit two by 270 MW to zero (all of this capacity was priced below $12/MWh). The unit did not return to service that day.

After the trip, a number of gas-fired peaking plants in South Australia were started in response. There was a short delay before this generation was able to be dispatched. This resulted in the dispatch of even higher-priced capacity in the interim to meet the reduction in capacity and as a result the 5-minute dispatch price reached the price cap of $10 000/MWh for four dispatch intervals from 4.30 pm.

In response, at 4.40 pm, effective from 4.50 pm, International Power rebid 85 MW of capacity at Dry Creek Station from prices above $300/MWh to zero. The reason given was "response to dispatch 16:40". By the 4.50 pm dispatch interval, the gas-fired plants were online, displacing the need for the higher priced generation. Both of these factors helped the dispatch price to fall.

There was no other significant rebidding.

Although around 140 MW of (low-priced) wind generation was forecast that morning to be available during the high-price period, the actual contribution during that period was only approximately 40 MW.

Around 130 MW of available capacity in South Australia was priced above $5000/MWh during the 5 pm trading interval. The closing bids for all participants in South Australia with capacity priced at or above $5000/MWh during that trading interval are presented in **Appendix A**.

The generators involved in setting the spot price during the time the price was above $5000/MWh, and how that price was determined by the market systems, are detailed in **Appendix B.**

Changes to network availability

In addition to the reduction in capacity outlined above, the ability to import into South Australia at the time across both interconnectors was restricted. These restrictions were as forecast four hours ahead.

The Murraylink interconnector was out of service from 5.20 am until 7.30 pm for planned maintenance. Imports across the Heywood interconnector were limited to 340 MW by a planned maintenance outage (of a static var compensator).

Actual and forecast demand

Figure 1 compares the actual demand in South Australia with that forecast by NEMMCO four and 12 hours ahead of dispatch. It shows that demand was slightly lower than forecast.

Also included in Figure 1 is a comparison of the actual and forecast spot price and available generation capacity.

Figure 1: South Australia demand, spot price and available capacity

5 pm	Actual	4 hr forecast	12 hr forecast
Demand (MW)	2094	2142	2126
Price ($/MWh)	5022.35	300.00	55.77
Available capacity (MW)	2101	2428	2364

Australian Energy Regulator

May 2009

Appendix A – Closing bids

Figures A1 to A4 highlight the half hour closing bids for participants in South Australia with significant capacity priced at or above $5000/MWh during the trading interval in which the spot price exceeded $5000/MWh. It also shows the generation output of that participant and the spot price.

Figure A1: AGL (Angaston[1]) closing bid prices, dispatch and spot price

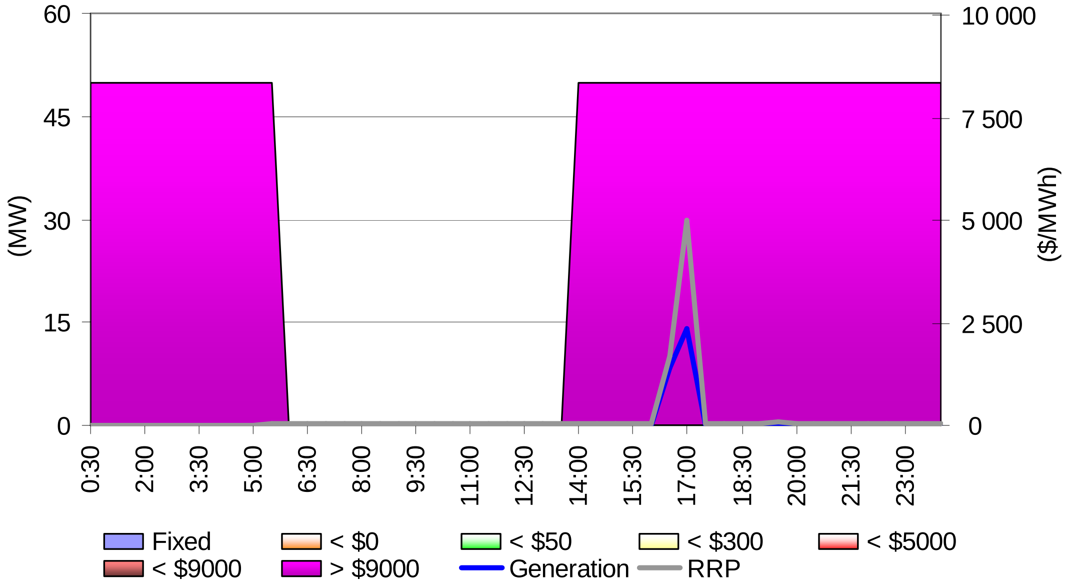
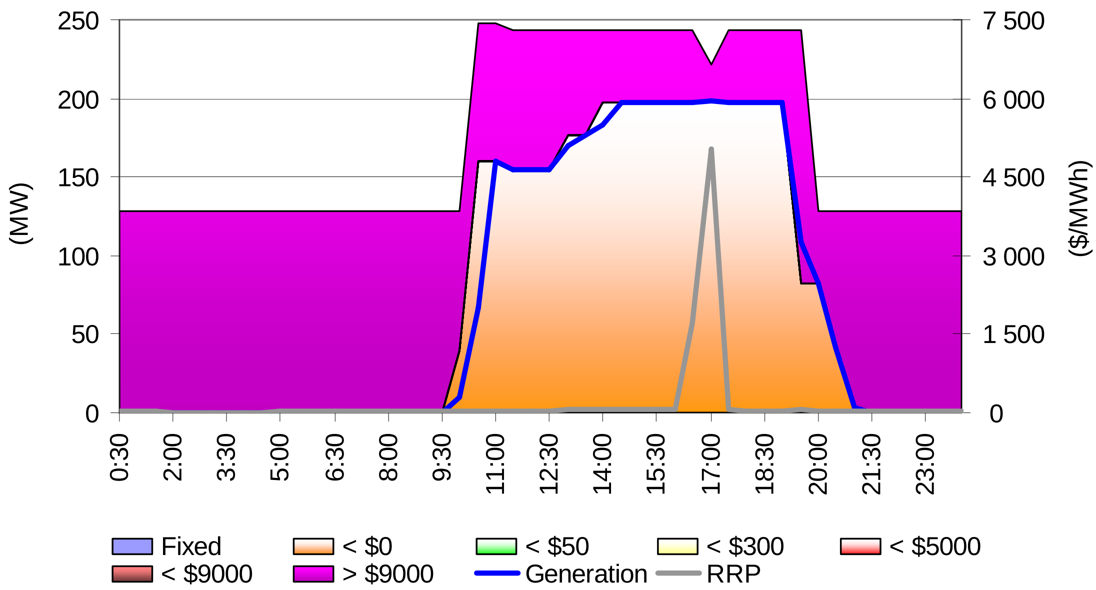


Figure A2: Origin closing bid prices, dispatch and spot price



[1] AGL is the operator of the 50 MW Angaston power station.

Figure A3: International Power closing bid prices, dispatch and spot price

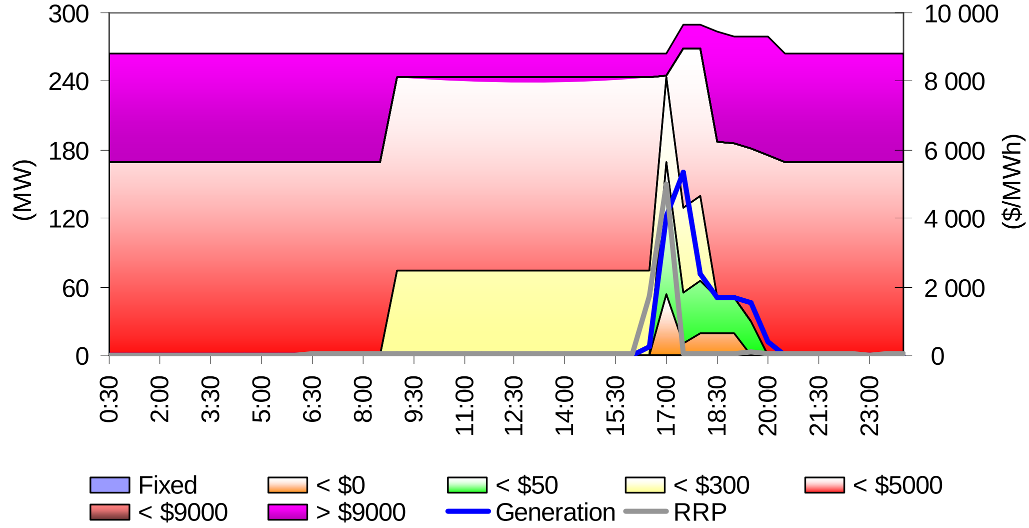
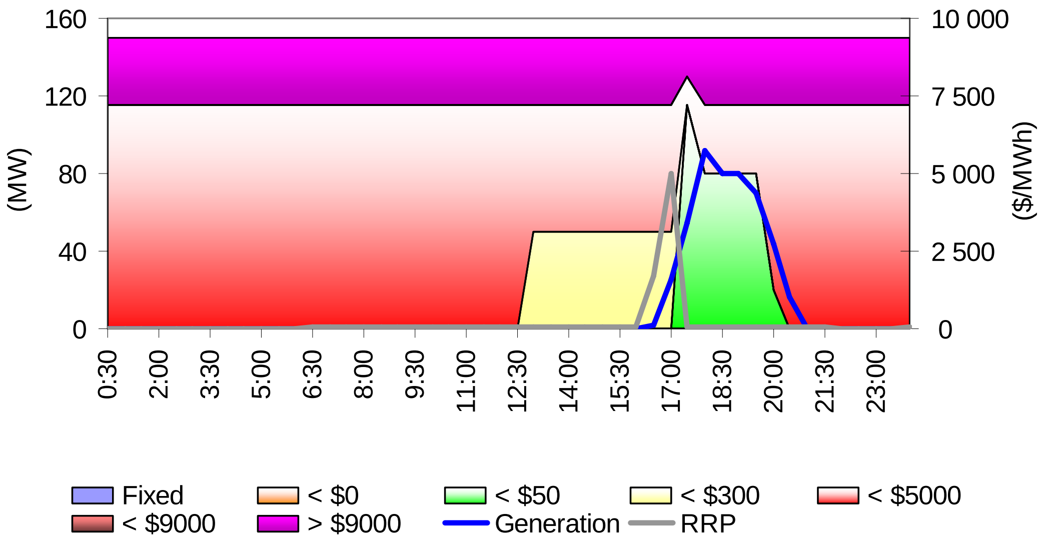


Figure A4: TRUenergy closing bid prices, dispatch and spot price



Appendix B – Price setters for 31 March 2009

The following table identifies the trading interval in which the spot price exceeded $5000/MWh. Each five minute dispatch interval price and the generating units involved in setting the energy price, as published in the market systems, are shown. This information is published by NEMMCO[2]. Also shown is the energy or ancillary service offer price involved in determining the dispatch price together with the quantity of that service and the contribution to the total energy price. The 30-minute spot price is the time weighted average of the six dispatch interval prices.

Tuesday 31 March– South Australia – 5 pm

Time	Dispatch price	Participant	Unit	Service	Offer price	Marginal change	Contribution
16:35	$9999.98	Infratil	ANGAS1	Energy	$9999.98	0.60	$5999.99
		Infratil	ANGAS2	Energy	$9999.98	0.40	$3999.99
16:40	$9999.98	Infratil	ANGAS1	Energy	$9999.98	0.60	$5999.99
		Infratil	ANGAS2	Energy	$9999.98	0.40	$3999.99
16:45	$9999.98	Infratil	ANGAS1	Energy	$9999.98	0.60	$5999.99
		Infratil	ANGAS2	Energy	$9999.98	0.40	$3999.99
16:50	$55.77	AGL SA	TORRB1	Energy	$55.77	1.00	$55.77
16:55	$40.52	Stanwell	GSTONE6	Energy	$32.70	1.24	$40.45
		Eraring Energy	ER01	Raise 5 min	$1.00	1.24	$1.24
		Stanwell	GSTONE6	Raise reg	$0.94	-1.24	-$1.16
17:00	$37.86	Mac Gen	BW03	Energy	$32.99	1.14	$37.53
		TRUenergy (Vic)	YWPS1	Raise 60 sec	$0.05	0.69	$0.03
		Mac Gen	BW03	Raise 60 sec	$0.03	-0.69	-$0.02
		LYMMCO	LYA3	Raise 6 sec	$0.50	0.69	$0.34
		Mac Gen	BW03	Raise 6 sec	$0.03	-0.69	-$0.02
Spot price		**$5022.35/MWh**					

[2] Details on how the price is determined can be found at www.nemmco.com.au