Spot prices greater than $5000/MWh

AUSTRALIAN ENERGY REGULATOR

Tasmania: 29-30 January 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 29 and 30 January 2009, spot market prices in Tasmania exceeded $7500/MWh for a total of three trading intervals.

Extreme weather conditions in South Australia and Victoria resulted in record or near record demand and caused sustained high prices in those regions. These sustained high prices led to the application of the administered price cap to both regions from Thursday afternoon. The cap was in place for over a week. The high prices in South Australia and Victoria are covered in a separate *Spot prices greater than $5000/MWh report.*

On 29 January at 7 pm a $6770/MWh spot price occurred in Tasmania as a result of Hydro Tasmania rebidding around 700 MW of available capacity from below $1600/MWh into prices exceeding $5000/MWh.

On 30 January at 10 am and 11 am spot prices of $6880/MWh and $5443/MWh respectively occurred in Tasmania as a result of a tight supplies in Southern Australia combined with high-priced generation capacity in Tasmania.

Actual and forecast conditions - 29 January

Figure 1 compares actual data with that forecast by NEMMCO four and twelve hours ahead of dispatch.

Figure 1: Actual data and NEMMCO forecasts for the7 pm trading interval

29 January 7:00 pm	Actual	4 hr forecast	12 hr forecast
Demand (MW)	1234	1206	1207
Spot Price ($MW/h)	6778	260	275
Capacity >$5000/MWh (MW)	698	751	0
Available capacity (MW)	2179	2179	2179
Flows out of TAS	224	0	164
Export limit	351	378	425

Actual demand and available capacity was close to forecast.

Flows across Basslink out of Tasmania were greater than forecast. There was an unplanned outage of Basslink from around 2 pm for less than one hour.

Over several rebids from 12.23 pm Hydro Tasmania shifted 698 MW of available capacity across its portfolio from prices below $1600/MWh to above $8000/MWh. The reasons given were “Hydrological optimisation” and “Change in Interconnector limit”. As a result there was no available capacity in Tasmania priced between $300/MWh and $8000/MWh.

Actual and forecast conditions - 30 January

Figure 2 compares actual data with that forecast by NEMMCO four and twelve hours ahead of dispatch.

Figure 2: Actual data and NEMMCO forecasts for the 10 am and 11 am trading intervals

30 January 10:00 am	Actual	4 hr forecast	12 hr forecast
Demand (MW)	1357	1268	1266
Spot Price	5443	8660	7039
Available capacity (MW)	2179	2035	2035
Capacity >$5000/MWh (MW)	316	537	539
Flows out of TAS	464	226	148
Export limit	466	484	484

30 January 11:00 am	Actual	4 hr forecast	12 hr forecast
Demand (MW)	1341	1261	1262
Spot Price	6880	8660	8660
Available capacity (MW)	2214	2035	2035
Capacity >$5000/MWh (MW)	294	550	552
Flows out of TAS	375	325	416
Export limit	439	482	481

Actual demand and available capacity was higher than forecast.

Limits and flows across Basslink out of Tasmania were close to forecast.

There was around 550 MW of available capacity priced above $5000/MWh set up in day ahead offers by Hydro Tasmania. This was reduced to around 300 MW through rebidding at 9.24 am which saw 243 MW of available capacity rebid from prices above $8000/MWh to below zero. The reason given was “Price higher than forecast”. There was no capacity priced between zero and $8000/MWh at 10 am and no capacity priced between $100/MWh and $8000/MWh for 11 am.

The closing bids for participants in Tasmania with capacity priced at or above $5000/MWh during the high priced periods on the two days are presented in **Appendix A.** The generators involved in setting the spot price during the time prices were above $5000/MWh, and how that price was determined by the market systems, are detailed in **Appendix B.**

Australian Energy Regulator
February 2009

Appendix A – Closing bids

Figures A1 – A2 highlight the half hour closing bids for power stations in Tasmania with significant capacity priced at or above $5000/MWh during the trading intervals in which the spot price exceeded $5000/MWh. It also shows the generation output and the spot price (RRP).

Figure A1: Hydro Tasmania closing bid prices, dispatch and spot price on 29 January

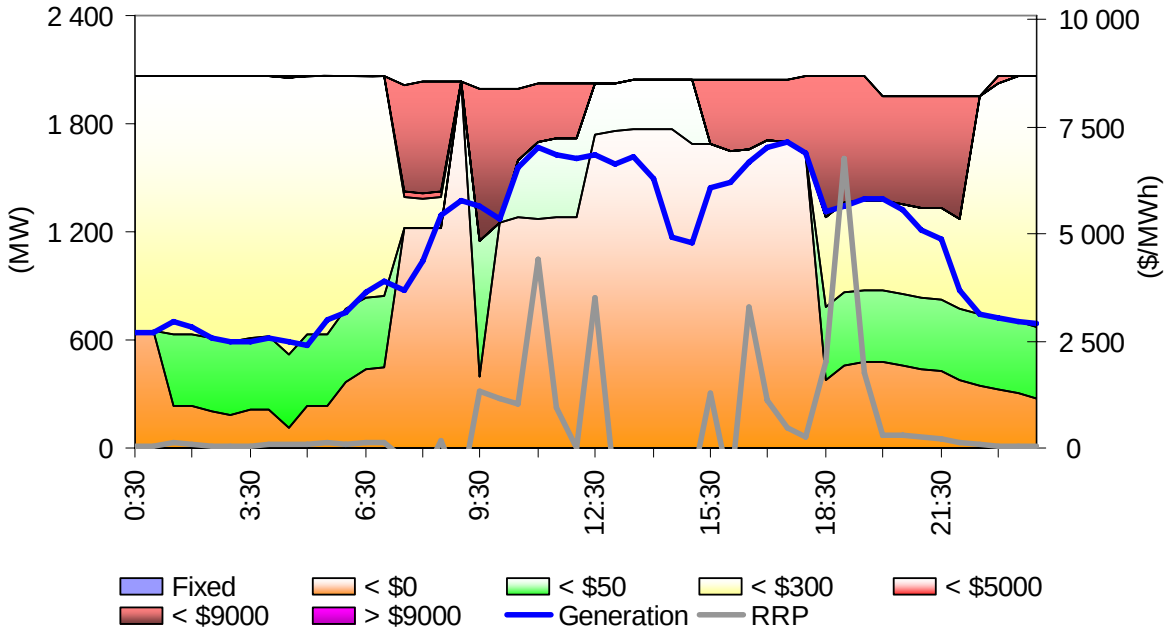
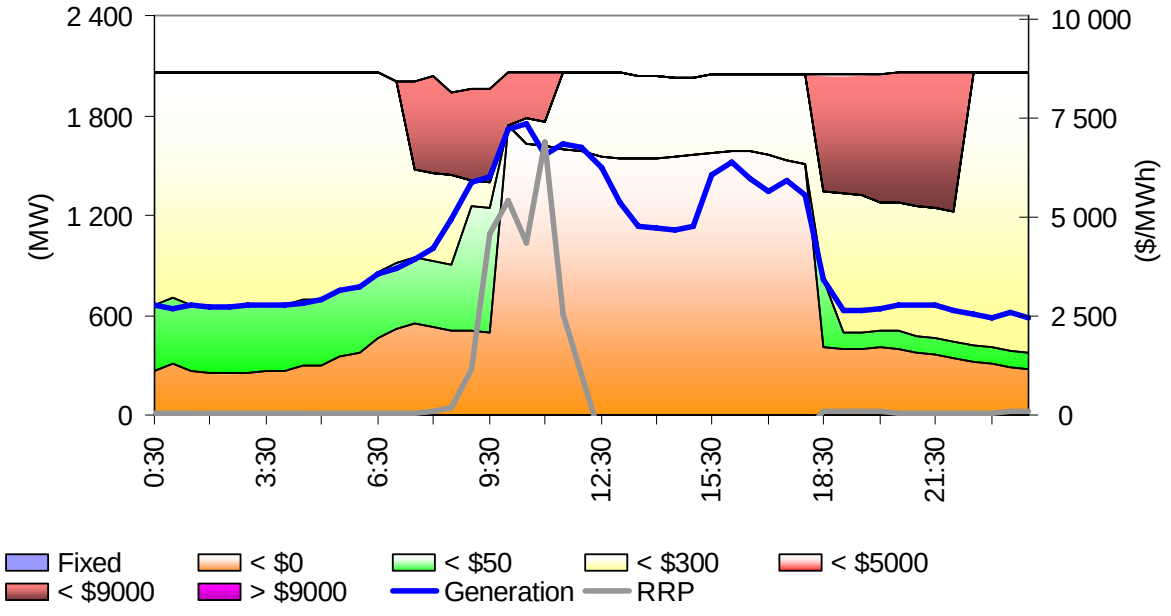


Figure A2: Hydro Tasmania closing bid prices, dispatch and spot price on 30 January



Appendix B – Price setters for 29-30 January 2009

The following tables identify the trading intervals 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[1]. 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.

Thursday 29 January – Tasmania – 7 pm

Time	Dispatch price	Participant	Unit	Service	Offer price	Marginal change	Contribution
18:35	$1622.68	Snowy Hydro	TUMUT3	Energy	$299.89	6.17	$1851.36
		CS Energy	CALL_B_1	Energy	$43.49	-5.26	-$228.66
		Basslink	BASSLINK	Energy	$0.01	-0.96	-$0.01
18:40	$7789.25	LYMMCO	LYA1	Energy	$8350.19	0.93	$7789.22
		Basslink	BASSLINK	Energy	$0.01	-0.96	-$0.01
18:45	$7809.43	LYMMCO	LYA1	Energy	$8350.19	0.94	$7809.43
		Basslink	BASSLINK	Energy	$0.01	-0.96	-$0.01
18:50	$7829.70	LYMMCO	LYA1	Energy	$8350.19	0.94	$7829.72
		Basslink	BASSLINK	Energy	$0.01	-0.96	-$0.01
18:55	$7809.43	LYMMCO	LYA1	Energy	$8350.19	0.94	$7809.43
		Basslink	BASSLINK	Energy	$0.01	-0.96	-$0.01
19:00	$7809.43	LYMMCO	LYA1	Energy	$8350.19	0.94	$7809.43
Spot price		**$ 6778/MWh**					

Friday 30 January – Tasmania – 10 am

Time	Dispatch price	Participant	Unit	Service	Offer price	Marginal change	Contribution
09:35	-$999.68	Hydro Tasmania	POAT220	Energy	-$999.68	1.00	-$999.68
09:40	-$999.68	Hydro Tasmania	POAT220	Energy	-$999.68	1.00	-$999.68
09:45	$8676.18	Infratil	ANGAS1	Energy	$9999.98	0.52	$5205.69
		Infratil	ANGAS2	Energy	$9999.98	0.35	$3470.49
		Basslink	BASSLINK	Energy	$0.01	-0.91	-$0.01
09:50	$8660.04	Hydro Tasmania	TREVALLN	Energy	$8660.04	1.00	$8660.04
09:55	$8660.04	Hydro Tasmania	TREVALLN	Energy	$8660.04	1.00	$8660.04
10:00	$8660.16	Hydro Tasmania	CETHANA	Energy	$8660.16	1.00	$8660.16
		Hydro Tasmania	CETHANA	Raise reg	$5.00	-1.00	-$5.00
		Hydro Tasmania	POAT110	Raise reg	$5.00	1.00	$5.00
Spot price		**$ 5443/MWh**					

Friday 30 January – Tasmania – 11 am

Time	Dispatch price	Participant	Unit	Service	Offer price	Marginal change	Contribution
10:35	$8660.04	Hydro Tasmania	TREVALLN	Energy	$8660.04	1.00	$8660.04
10:40	$5895.40	Eraring Energy	ER03	Energy	$100.00	3.18	$318.41
		Eraring Energy	ER04	Energy	$100.00	3.18	$318.41
		Basslink	BASSLINK	Energy	$0.01	-0.93	-$0.01
		Snowy Hydro	UPPTUMUT	Energy	-$1000.00	-5.26	$5258.58
10:45	$5924.55	Eraring Energy	ER01	Energy	$100.00	1.60	$159.99
		Eraring Energy	ER02	Energy	$100.00	1.60	$159.99
		Eraring Energy	ER03	Energy	$100.00	1.60	$159.99
		Eraring Energy	ER04	Energy	$100.00	1.60	$159.99
		Basslink	BASSLINK	Energy	$0.01	-0.93	-$0.01
		Snowy Hydro	UPPTUMUT	Energy	-$1000.00	-5.28	$5284.57
10:50	$5974.65	Eraring Energy	ER01	Energy	$100.00	1.61	$161.45
		Eraring Energy	ER02	Energy	$100.00	1.61	$161.45
		Eraring Energy	ER03	Energy	$100.00	1.61	$161.45
		Eraring Energy	ER04	Energy	$100.00	1.61	$161.45
		Basslink	BASSLINK	Energy	$0.01	-0.93	-$0.01
		Snowy Hydro	UPPTUMUT	Energy	-$1000.00	-5.33	$5328.83
10:55	$5981.09	Eraring Energy	ER01	Energy	$100.00	1.62	$161.74
		Eraring Energy	ER02	Energy	$100.00	1.62	$161.74
		Eraring Energy	ER03	Energy	$100.00	1.62	$161.74
		Eraring Energy	ER04	Energy	$100.00	1.62	$161.74
		Basslink	BASSLINK	Energy	$0.01	-0.93	-$0.01
		Snowy Hydro	UPPTUMUT	Energy	-$1000.00	-5.33	$5334.14
11:00	$8845.57	Snowy Hydro	MURRAY	Energy	$9998.98	1.07	$10 681.31
		Synergen	POR01	Energy	$9998.60	-0.18	-$1834.64
		Basslink	BASSLINK	Energy	$0.01	-0.92	-$0.01
		Hydro Tasmania	POAT220	Raise 5 min	$0.90	0.92	$0.83
		Stanwell	GSTONE3	Raise 5 min	$0.01	-0.92	-$0.01
		Snowy Hydro	MURRAY	Raise reg	$3.00	-0.92	-$2.77
		Stanwell	GSTONE3	Raise reg	$0.94	0.92	$0.87
Spot price		**$ 6880/MWh**					

1 NEMMCO first published details on how the price is determined, for every dispatch interval, in June 2004. Documentation of this process can be found at http://www.nemmco.com.au/powersystemops/140-0073.pdf