Electricity spot prices above $5000/MWh

Victoria and South Australia, 1 March 2019

1 May 2019

AUSTRALIAN ENERGY REGULATOR

Inquiries about this publication should be addressed to:

Australian Energy Regulator
GPO Box 520
MELBOURNE VIC 3001

Tel: (03) 9290 1444
Fax: (03) 9290 1457

Email: AERInquiry@aer.gov.au
AER Reference: 64952-D19/61067

Amendment Record

Version	Date	Pages
Final report	1/5/2019	22

Contents

1 Obligation

The Australian Energy Regulator (AER) regulates energy markets and networks under national legislation and rules in eastern and southern Australia, as well as networks in the Northern Territory. Its functions include:

- monitoring wholesale electricity and gas markets to ensure energy businesses comply with the legislation and rules, and taking enforcement action where necessary;
- setting the amount of revenue that network businesses can recover from customers for using networks (electricity poles and wires and gas pipelines) that transport energy;
- regulating retail energy markets in Queensland, New South Wales, South Australia, Tasmania (electricity only), and the ACT;
- operating the Energy Made Easy website, which provides a retail price comparator and other information for energy consumers;
- publishing information on energy markets, including the annual State of the energy market report, to assist stakeholders and the wider community.

The AER is required to publish a report whenever the electricity spot price exceeds $5000 per megawatt hour ($/MWh) in accordance with clause 3.13.7 (d) of the National Electricity Rules.

The report:

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

These reports are designed to examine market events and circumstances that contributed to wholesale market price outcomes and are not an indicator of potential compliance issues or enforcement action.

2 Summary

On 1 March 2019 maximum temperatures in Melbourne and Adelaide exceeded 38°C, leading to high demand for electricity and prices exceeding $5000/MWh. The spot price for electricity for the 4 pm, 4.30 pm and 5 pm trading intervals reached $6915/MWh, $12 635/MWh and $12 472/MWh respectively in Victoria, and $6765/MWh, $12 609/MWh and $12 067/MWh respectively in South Australia. Forecasts from the previous day anticipated spot prices to be at the price cap.

Of around 14 800 megawatts (MW) of maximum possible generation usually available in Victoria and South Australia during summer, about 12 600 MW was offered into the market on the day with the difference primarily due to reduced availability of wind generation. Across the two regions there is around 2400 MW of wind capacity that can offer into the market, but during the time of high prices the most that was generated was 390 MW. All registered coal and gas generators were generating.

Rebidding from low to high prices did not contribute to the price exceeding $5000/MWh. In fact, generators shifted capacity from high to low prices throughout the day, with around 90 per cent of capacity offered below $5000/MWh after rebidding. Despite higher than forecast imports from neighbouring regions (New South Wales and Tasmania), higher-priced local generation was needed to meet demand.

3 Analysis

The following sections examine why the high spot prices occurred. Prices were aligned across Victoria and South Australia. Therefore, the analysis in this report treats the two regions as a combined region where appropriate.

3.1 Overview of actual and expected conditions

Across both regions, the spot price exceeded $5000/MWh for the 4 pm, 4.30 pm and 5 pm trading intervals. Table 1 shows actual and forecast spot prices for Victoria (as the price was similar both regions), and demand and local availability for the high priced trading intervals for the two regions combined.

Price, demand and availability tables for the individual regions are included in *Appendix A: Spot Prices for Victoria and South Australia*.

Table 1 shows:

- Four and 12 hours ahead the spot price was forecast to reach the market price cap.
- The actual price was lower than forecast. This was due to participants shifting capacity from high to low prices (see section 3.3.1).
- Demand and availability were close to forecast.

Table 1: Actual and forecast spot price for Victoria, and demand and available capacity for Victoria and South Australia combined

Trading interval	Price ($/MWh)			Demand (MW)			Availability (MW)		
	Actual	4 hr forecast	12 hr forecast	Actual	4 hr forecast	12 hr forecast	Actual	4 hr forecast	12 hr forecast
4 pm	6 915	14 500	14 500	11 662	11 822	11 855	12 688	12 748	12 725
4.30 pm	12 635	14 500	14 500	11 828	12 018	12 048	12 649	12 736	12 704
5 pm	12 472	14 500	14 500	12 038	12 122	12 153	12 590	12 694	12 716

Only the Victorian spot prices are included in Table 1 as the price was similar in both regions.

3.2 Demand

Very high temperatures in Melbourne and Adelaide led to high demand in both regions. The temperature reached a high of 40°C[1] in Adelaide and 38°C[2] in Melbourne. Combined demand for electricity reached a maximum of 12 038 MW at 5 pm, which was close to forecast. This was around 1700 MW below record levels.[3]

[1] Adelaide, South Australia - March 2019 (Bureau of Meteorology)
[2] Melbourne, Victoria - March 2019 (Bureau of Meteorology)
[3] Record total demand was 3385 MW in South Australia on 31 January 2011, and 10 414 MW in Victoria on 29 January 2009

3.3 Supply

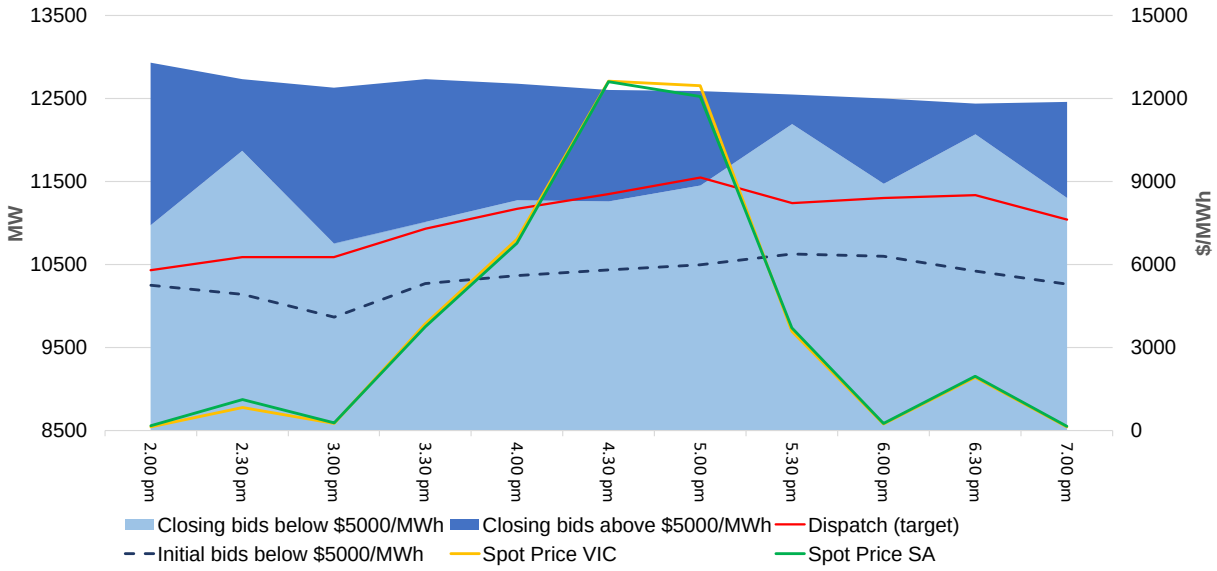
This section examines the supply side factors that had an effect on the high price outcomes.

3.3.1 Generator offers and availability

Figure 1 shows the cumulative generator offers for Victoria and South Australia. Also known as closing bids, the figure shows the actual capacity offered by generators in each region, including amendments to their offers to match changes to their own economic and/or physical positions (known as “rebidding”). Also shown on the figure are the initial bids below $5000/MWh (dotted blue line) and actual combined generation output (red line).

Capacity offered below $5000/MWh is shown in light blue and capacity offered above $5000/MWh is in dark blue. The yellow and green lines show the spot price for electricity in Victoria and South Australia, respectively.

Figure 1: Combined generator bids for Victoria and South Australia



In initial forecasts, generators in Victoria and South Australia were offering 84 per cent of their capacity at prices below $5000/MWh (dotted blue line), with most of the remainder offered above $12 500/MWh. Despite the high volume of low-priced capacity initially offered, there was still insufficient generation below $5000/MWh to meet the anticipated demand and prices were forecast to reach the market cap.

Throughout the day generators shifted capacity into low price bands so about 90 per cent of capacity was offered below $5000/MWh for the high priced trading intervals, with most of that priced less than -$900/MWh. The reasons for the rebids included, but were not limited to, changes in forecast prices, changes in forecast demand, and constraint management. A full list of the relevant rebids is contained in *Appendix B: Significant rebids*. Of the remaining 10 per cent over $5000/MWh, most of that was offered above $10 000/MWh. Rebidding into high price bands did not contribute to the high prices in Victoria and South Australia.

Even with all of this low priced capacity dispatched and maximum imports from neighbouring regions, high priced capacity was dispatched to meet demand.

Relevant rebids are contained The closing bids for all participants in Victoria and South Australia with capacity priced at or above $5000/MWh for the high-price periods are set out in *Appendix C: Closing bids*. The generators involved in setting the price during the high-price periods, and how that price was determined by the market systems are detailed in *Appendix D: Price setter*.

Generation availability

Of around 14 800 megawatts (MW) of possible generation usually available across the two regions during summer, about 12 600 MW was offered into the market on the day. The difference was primarily due to reduced availability of wind generation. During the high priced trading intervals semi-scheduled wind generation reached a maximum of 390 MW, as compared to an installed capacity of 2400 MW. Wind generation in both regions was 160 to 220 MW below forecast, reducing potential supply of low-priced electricity. All coal and gas units were offering close to their maximum summer capacity of 9200 MW.

3.3.2 Network Availability

The NEM regions are connected via high voltage interconnectors, through which electricity is transferred between regions. Victoria is connected to South Australia via two interconnectors, Heywood and Murraylink, to New South Wales via the Victoria – New South Wales (VIC – NSW) interconnector, and to Tasmania via Basslink. During the high priced trading intervals both the Heywood and Murraylink interconnectors were unconstrained. As a result, Victoria and South Australia acted as one region.

Table 2 shows net actual and forecast flows, import and export limits into the combined region across the Basslink, and VIC-NSW interconnectors. The table shows the combined region was importing (note negative numbers represent flows into Victoria) around 500 MW of electricity at the time of high prices, which was higher than forecast.

Table 2: Combined actual and forecast flows and limits across Basslink and Vic-NSW interconnectors

Trading interval	Flows (MW)			Import limit (MW)			Export limit (MW)		
	Actual	4 hr forecast	12 hr forecast	Actual	4 hr forecast	12 hr forecast	Actual	4 hr forecast	12 hr forecast
4 pm	-498	-334	-327	-498	-450	-443	398	1 091	1 307
4.30 pm	-483	-325	-307	-541	-441	-423	407	1120	1 370
5 pm	-502	-297	-265	-521	-413	-381	382	1 126	1 390

Australian Energy Regulator

May 2019

Appendix A: Spot Prices for Victoria and South Australia

Table 3 and Table 4 show actual and forecast spot prices, demand and local availability (that is, excluding imports from other regions) for the high priced trading intervals in Victoria and South Australia respectively.

Table 3: Actual and forecast spot price, demand and available capacity for Victoria

Trading interval	Price ($/MWh)			Demand (MW)			Availability (MW)		
	Actual	4 hr forecast	12 hr forecast	Actual	4 hr forecast	12 hr forecast	Actual	4 hr forecast	12 hr forecast
4pm	6 915	14 500	14 500	9 083	9 249	9 267	9 483	9 509	9 408
4.30 pm	12 635	14 500	14 500	9 144	9 321	9 337	9 480	9 514	9 401
5pm	12 472	14 500	14 500	9 290	9 337	9 349	9 448	9 500	9 450

Table 4: Actual and forecast spot price, demand and available capacity for South Australia

Trading interval	Price ($/MWh)			Demand (MW)			Availability (MW)		
	Actual	4 hr forecast	12 hr forecast	Actual	4 hr forecast	12 hr forecast	Actual	4 hr forecast	12 hr forecast
4 pm	6 765	14 500	14 500	2 579	2 572	2 587	3 205	3 238	3 317
4.30 pm	12 609	14 500	14 500	2 683	2 696	2 710	3 169	3 222	3 303
5 pm	12 067	14 500	14 500	2 748	2 785	2 803	3 142	3 194	3 265

Appendix B: Significant rebids

The rebidding tables highlight the relevant rebids submitted by generators that impacted on market outcomes during the time of high prices. It details the time the rebid was submitted and used by the dispatch process, the capacity involved, the change in the price of the capacity being offered, and the rebid reason.

Victoria

Table 5: Victoria significant rebids 4 pm

Submit time	Time effective	Participant	Station	Capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
3.09 pm		Alinta Energy	Loy Yang B	120	>11 499	-999	1505~A~VIC 5PD increasing di 15:35 $618.87 vs $10,841.15~
3.30 pm	3.40 pm	EnergyAustralia	Newport	50	14 160	-1 000	1525~A~Adj bands due to mat increase in VIC 5min PD price $10,553 vs $157 @ 1535 SL~
3.31 pm	3.40 pm	Origin Energy	Mortlake	100	14 500	98	1530 A Inc SA dem 5PD 2667mw > 30PD 2562mw @1600 SL

Table 6: Victoria significant rebids 4.30 pm

Submit time	Time effective	Participant	Station	Capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
3.30 pm		EnergyAustralia	Newport	50	14 160	-1 000	1525~A~Adj bands due to mat increase in VIC 5min PD price $10,553 vs $157 @ 1535 SL~
3.31 pm		Origin Energy	Mortlake	100	14 500	98	1530A Inc SA dem 5PD 2667mw > 30PD 2562mw @1600 SL
3.43 pm		EnergyAustralia	Newport	50	14 160	-1 000	1535~A~Adj bands due to mat decrease in VIC demand 9,089mw vs 9,201mw @ 1545 SL~

Table 7: Victoria significant rebids 5 pm

Submit time	Time effective	Participant	Station	Capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
3.30 pm		EnergyAustralia	Newport	50	14 160	-1 000	1525~A~Adj bands due to mat increase in VIC 5min PD price $10,553 vs $157 @ 1535 SL~

Submit time	Time effective	Participant	Station	Capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
3.31 pm		Origin Energy	Mortlake	100	14 500	98	1530 A Inc SA dem 5PD 2667mw > 30PD 2562mw @1600 SL
3.43 pm		EnergyAustralia	Newport	50	14 160	-1 000	1535~A~Adj bands due to mat decrease in VIC demand 9,089mw vs 9,201mw @ 1545 SL~
3.58 pm		EnergyAustralia	Jeeralang B	40	14 192	11 501	1555~A~Band adj due to mat decrease in VIC 5min PD price $11,500 vs $13,050 @ 1605 SL~
4.26 pm	4.35 pm	EnergyAustralia	Jeeralang B	40	14 192	11 501	1620~A~Band adj due to decrease in vic-SA demand 12,085mw vs 12,160mw @ 1710 SL~

South Australia

Table 8: South Australia significant rebids 4 pm

Submit time	Time effective	Participant	Station	Capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
1.04 pm		Engie	Mintaro	72	14 500	<147	1300~A~SA dispatch price $379.95 > $116.79 30mPD hhe 13:30~
1.11 pm		Origin Energy	Quarantine	74	14 500	-1 000	1309a Inc VIC dem 5PD 8155mw > 30PD 7988mw @1330 SL
1.39 pm		Origin Energy	Quarantine	57	14 500	-1 000	1335 A constraint management - N^^V_NIL_1 SL
1.49 pm		Engie	Dry Creek	39	13 100	<150	1345~A~Manage constraint: V:S_600_HY_TEST~
2.00 pm		Engie	Dry Creek	43	13 100	<150	1355~A~SA dispatch demand 2313mw > 2179mw 30mPD HHE 14:00~
2.02 pm		Engie	Dry Creek	39	13 100	<150	1400~A~unforecast high price $10,161.57~
2.22 pm		Snowy Hydro	Port Stanvac	65	14 558	-1 004	14:21:00 a SA 5min PD demand 81 higher than 30min PD 15:20@14:02 (2482) retail load increased.
3.18 pm		Engie	Port Lincoln	61	14 500	<300	1515~A~constraint management: n^^v_nil_1~

Table 9: South Australia significant rebids 4.30 pm

Submit time	Time effective	Participant	Station	Capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
1.04 pm		Engie	Mintaro	72	14 500	<147	1300~A~SA dispatch price $379.95 > $116.79 30mPD HHE 13:30~
1.11 pm		Origin Energy	Quarantine	74	14 500	-1 000	1309a Inc VIC dem 5PD 8155mw > 30PD 7988mw @1330 SL
1.39 pm		Origin Energy	Quarantine	57	14 500	-1 000	1335 A constraint management - N^^V_NIL_1 SL
1.49 pm		Engie	Dry Creek	39	13 100	<150	1345~A~manage constraint: V:S_600_HY_TEST~
2.00 pm		Engie	Dry Creek	43	13 100	<150	1355~A~SA dispatch demand 2313mw > 2179mw 30mPD HHE 14:00~
2.02 pm		Engie	Dry Creek	39	13 100	<150	1400~A~unforecast high price $10,161.57~
2.22 pm		Snowy Hydro	Port Stanvac	65	14 558	-1 004	14:21:00 A SA 5min PD demand 81 higher than 30min PD 15:20@14:02 (2482) retail load increased.
3.18 pm		Engie	Port Lincoln	61	14 500	<300	1515~A~constraint management: N^^V_NIL_1~
4.05 pm	4.15 pm	AGL Energy	Torrens Island	80	14 500	<12 100	1555~A~040 Chg in aemo disp~44 price decrease vs PD SA $1859.74

Table 10: South Australia significant rebids 5 pm

Submit time	Time effective	Participant	Station	Capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
1.04 pm		Engie	Mintaro	72	14 500	<147	1300~A~SA dispatch price $379.95 > $116.79 30mPD HHE 13:30~
1.11 pm		Origin Energy	Quarantine	74	14 500	-1 000	1309 A Inc VIC dem 5PD 8155mw > 30PD 7988mw @1330 SL
1.39 pm		Origin Energy	Quarantine	57	14 500	-1 000	1335a constraint management - N^^V_NIL_1 SL
1.49 pm		Engie	Dry Creek	39	13 100	<150	1345~A~manage constraint: V:S_600_HY_TEST ~
2.00 pm		Engie	Dry Creek	44	13 100	<150	1355~A~SA dispatch demand 2313mw > 2179mw 30mPD HHE 14:00~

Submit time	Time effective	Participant	Station	Capacity rebid (MW)	Price from ($/MWh)	Price to ($/MWh)	Rebid reason
2.02 pm		Engie	Dry Creek	39	13 100	<150	1400~A~Unforecast high price $10,161.57~
2.22 pm		Snowy Hydro	Port Stanvac	65	14 558	-1 004	14:21:00 A SA 5min PD demand 81 higher than 30min PD 15:20@14:02 (2482) retail load increased.
3.18 pm		Engie	Port Lincoln	61	14 500	<300	1515~A~Constraint management: N^^V_NIL_1~

Appendix C: Closing bids

Figure 2 to Figure 8 highlight the half hour closing bids for participants in Victoria and South Australia with capacity priced at or above $5000/MWh during the periods in which the spot price exceeded $5000/MWh. They also show generation output and the spot price.

Victoria

Figure 2: AGL Energy (Loy Yang A, Macarthur, Oaklands Hill, Somerton, Dartmouth, Eildon, McKay and West Kiewa) closing bids, dispatch and spot price

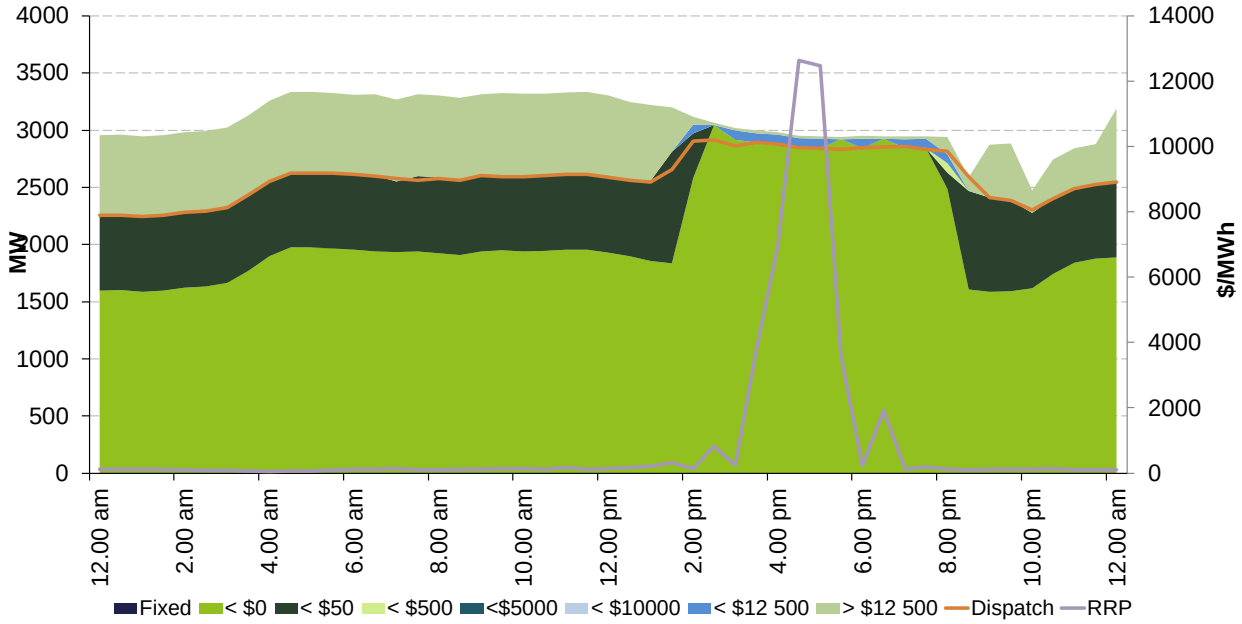


Figure 3: EnergyAustralia (Yallourn, Newport, Jeeralang, Ballarat and Gannawarra) closing bids, dispatch and spot price

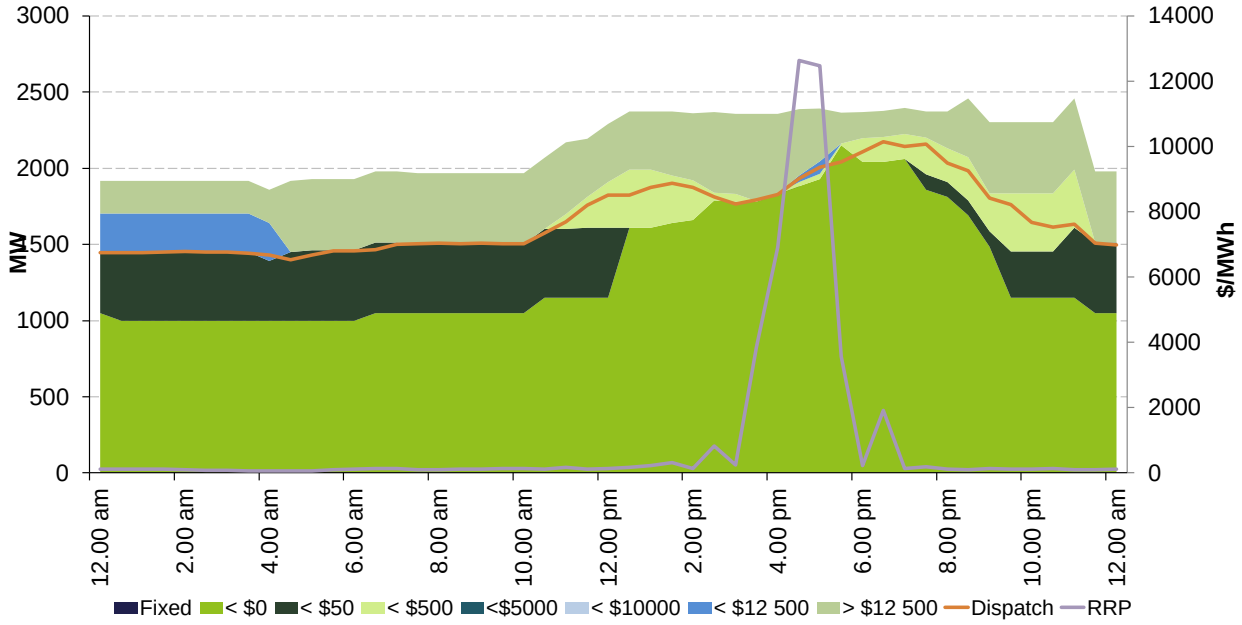
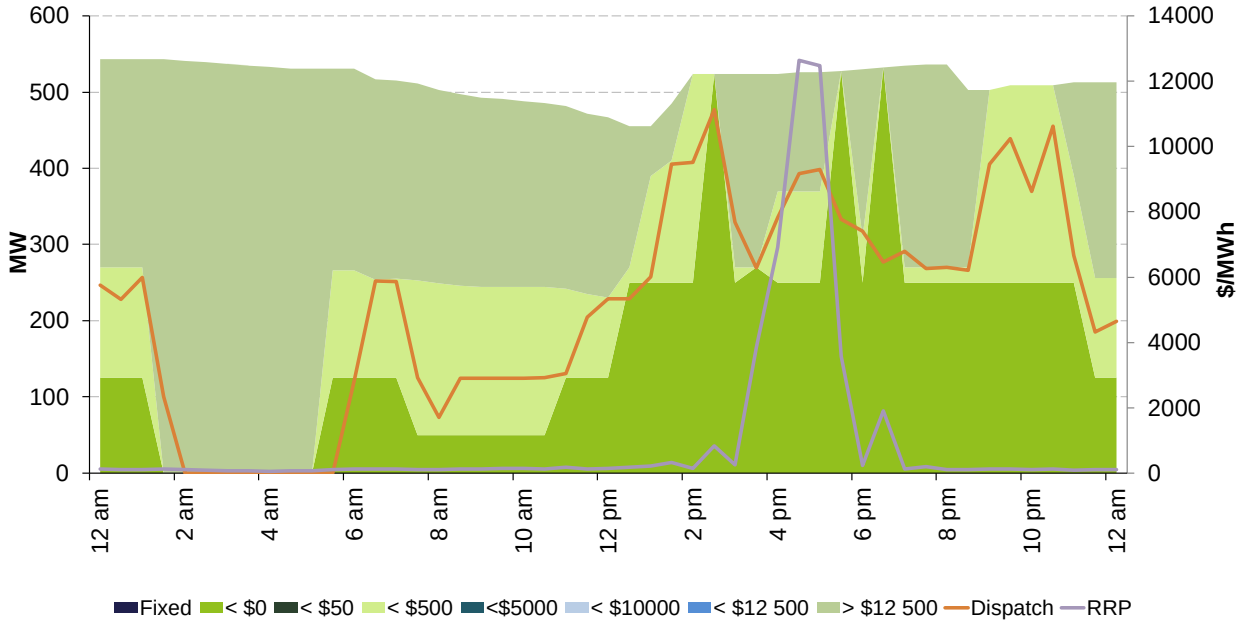


Figure 4: Origin Energy (Mortlake) closing bids, dispatch and spot price



South Australia

Figure 5: AGL Energy (Torrens Island, The Bluff, Hallett WF and North Brown Hill WF) closing bids, dispatch and spot price

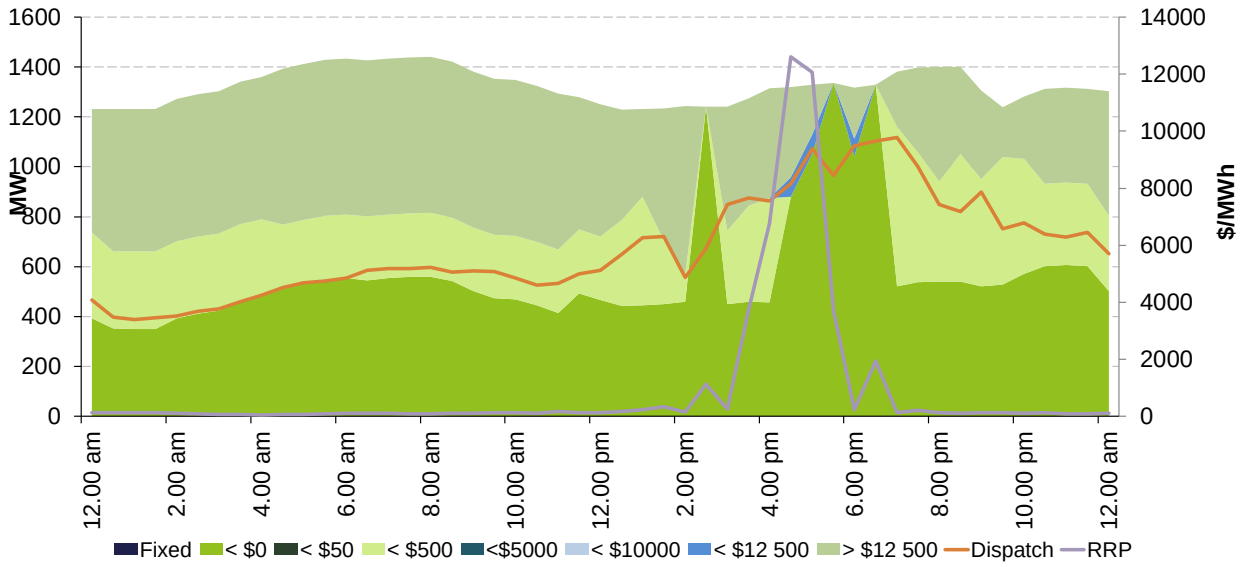


Figure 6: EnergyAustralia (Hallett and Waterloo) closing bids, dispatch and spot price

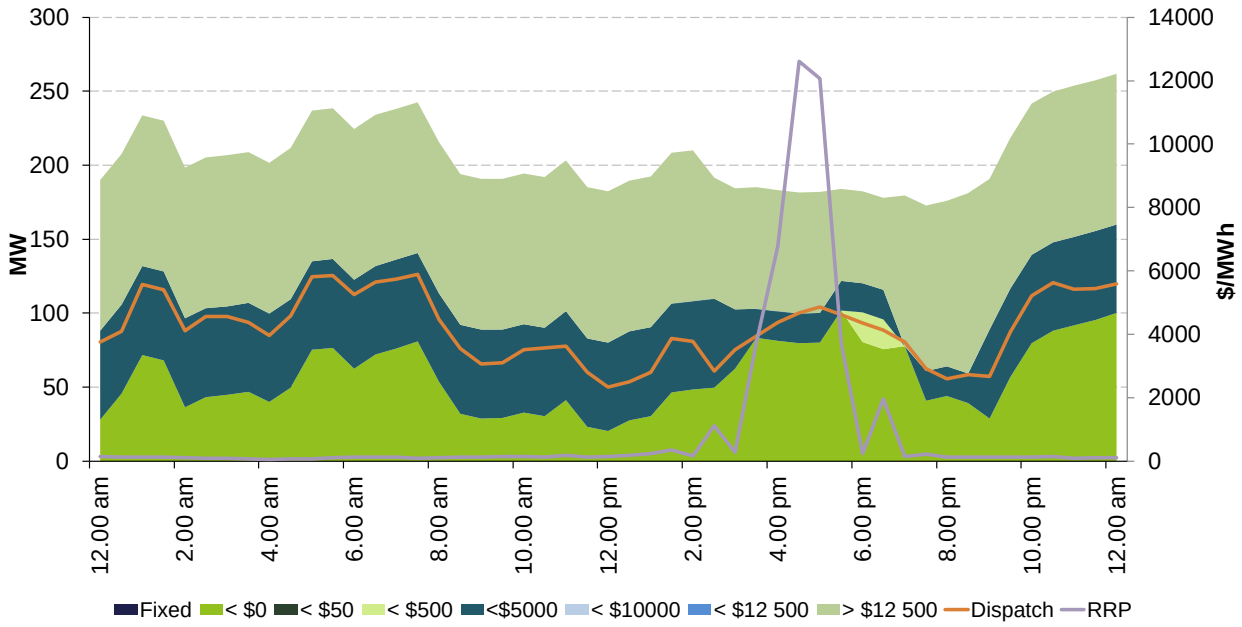


Figure 7: Origin Energy (Ladbroke Grove, Quarantine, Osborne) closing bids, dispatch and spot price

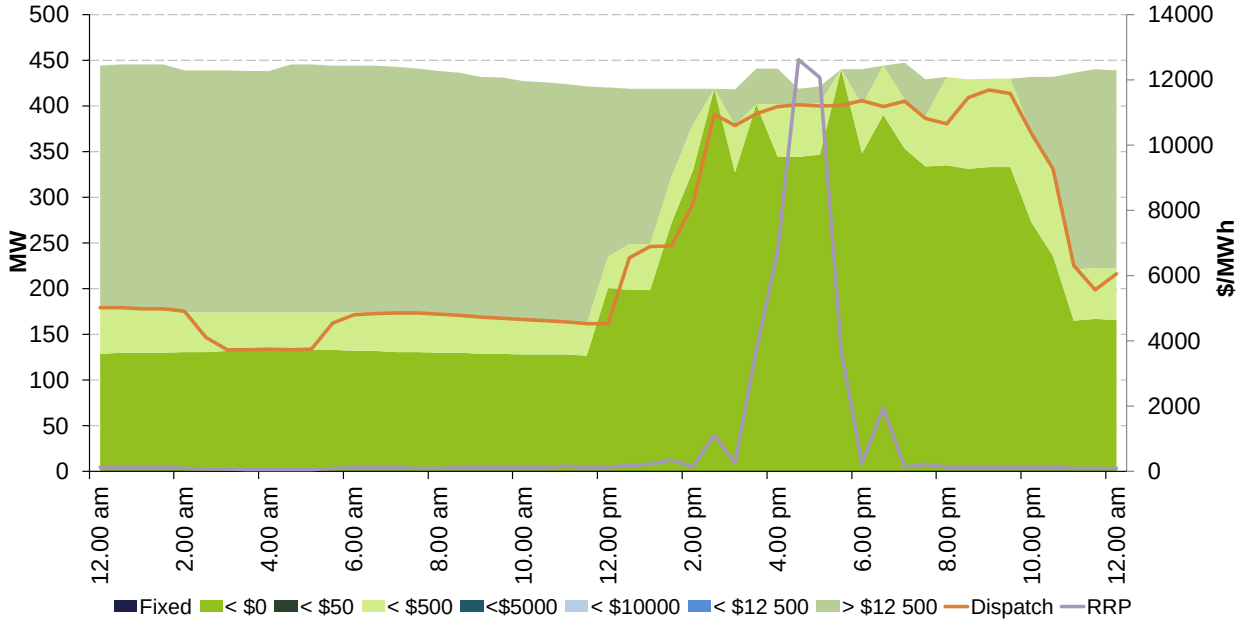
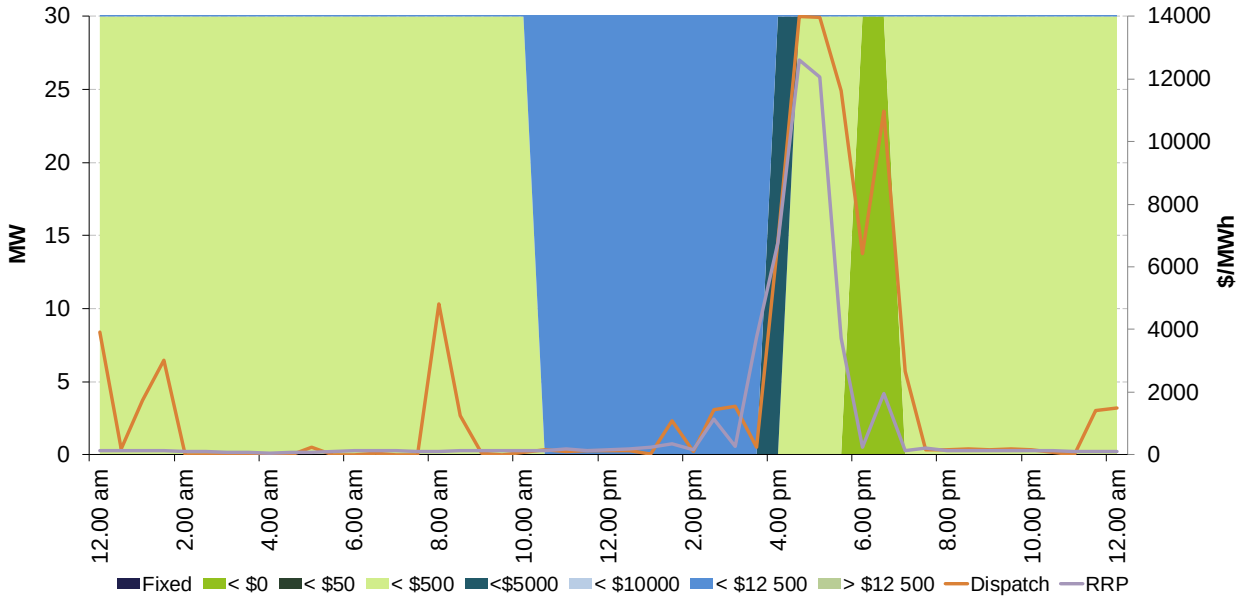


Figure 8: Hornsdale Power Reserve (Hornsdale battery) closing bids, dispatch and spot price



Only 30 MW of the 100 MW battery is offered to the market on a commercial basis. The remaining 70 MW is reserved for the SA Government and therefore has not been included in Figure 8.

Appendix D: Price setter

The following table identifies for 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. This information is published by AEMO.[4] The 30-minute spot price is the average of the six dispatch interval prices. The dispatch prices that are in italics are capped at the price cap of $14 500/MWh when published by AEMO.

Victoria

Table 11: Victoria price setter 4 pm

DI	Dispatch Price ($/MWh)	Participant	Unit	Service	Offer price ($/MWh)	Marginal change	Contribution
15:35	$14 159.89	Ecogen Energy	NPS	Energy	$14 159.89	1.00	$14 159.89
15:40	$326.26	AGL (SA)	TORRA1	Energy	$320.00	0.09	$28.80
		AGL (SA)	TORRA2	Energy	$320.00	0.09	$28.80
		AGL (SA)	TORRA3	Energy	$320.00	0.09	$28.80
		AGL (SA)	TORRB1	Energy	$320.00	0.19	$60.80
		AGL (SA)	TORRB2	Energy	$320.00	0.19	$60.80
		AGL (SA)	TORRB3	Energy	$320.00	0.19	$60.80
		AGL (SA)	TORRB4	Energy	$320.00	0.19	$60.80
15:45	$317.56	AGL (SA)	TORRA1	Energy	$320.00	0.08	$25.60
		AGL (SA)	TORRA2	Energy	$320.00	0.08	$25.60
		AGL (SA)	TORRA3	Energy	$320.00	0.08	$25.60
		AGL (SA)	TORRA4	Energy	$320.00	0.08	$25.60
		AGL (SA)	TORRB1	Energy	$320.00	0.17	$54.40
		AGL (SA)	TORRB2	Energy	$320.00	0.17	$54.40
		AGL (SA)	TORRB3	Energy	$320.00	0.17	$54.40
		AGL (SA)	TORRB4	Energy	$320.00	0.17	$54.40
15:50	$584.28	EnergyAustralia	AGLHAL	Energy	$578.81	1.01	$584.60
15:55	$13 049.84	Origin Energy	MORTLK11	Energy	$13 049.84	0.50	$6 524.92
		Origin Energy	MORTLK12	Energy	$13 049.84	0.50	$6 524.92
16:00	$13 049.84	Origin Energy	MORTLK11	Energy	$13 049.84	0.50	$6 524.92
		Origin Energy	MORTLK12	Energy	$13 049.84	0.50	$6 524.92
Spot Price		**$6 915/MWh**					

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

Table 12: Victoria price setter 4.30 pm

DI	Dispatch Price ($/MWh)	Participant	Unit	Service	Offer price ($/MWh)	Marginal change	Contribution
16:05	$11 499.00	Engie	LOYYB2	Energy	$11 499.00	1.00	$11 499.00
16:10	$13 049.84	Origin Energy	MORTLK11	Energy	$13 049.84	0.50	$6 524.92
		Origin Energy	MORTLK12	Energy	$13 049.84	0.50	$6 524.92
16:15	$13 049.84	Origin Energy	MORTLK11	Energy	$13 049.84	0.50	$6 524.92
		Origin Energy	MORTLK12	Energy	$13 049.84	0.50	$6 524.92
16:20	$12 110.48	AGL (SA)	TORRA1	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRA2	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRA3	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRA4	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRB1	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRB2	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRB3	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRB4	Energy	$12 100.00	0.13	$1 573.00
16:25	$13 049.84	Origin Energy	MORTLK11	Energy	$13 049.84	0.50	$6 524.92
		Origin Energy	MORTLK12	Energy	$13 049.84	0.50	$6 524.92
16:30	$13 049.84	Origin Energy	MORTLK11	Energy	$13 049.84	0.50	$6 524.92
		Origin Energy	MORTLK12	Energy	$13 049.84	0.50	$6 524.92
Spot Price		**$12 635/MWh**					

Table 13: Victoria price setter 5 pm

DI	Dispatch Price ($/MWh)	Participant	Unit	Service	Offer price ($/MWh)	Marginal change	Contribution
16:35	$11 500.80	Ecogen Energy	JLB01	Energy	$11 500.80	0.18	$2 070.14
		Ecogen Energy	JLB02	Energy	$11 500.80	0.18	$2 070.14
		Ecogen Energy	JLB03	Energy	$11 500.80	0.64	$7 360.51
16:40	$11 500.80	Ecogen Energy	JLB01	Energy	$11 500.80	0.18	$2 070.14
		Ecogen Energy	JLB02	Energy	$11 500.80	0.18	$2 070.14
		Ecogen Energy	JLB03	Energy	$11 500.80	0.64	$7 360.51
16:45	$12 678.53	AGL (SA)	TORRA1	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRA2	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRA3	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRA4	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRB1	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRB2	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRB3	Energy	$12 100.00	0.13	$1 573.00

DI	Dispatch Price ($/MWh)	Participant	Unit	Service	Offer price ($/MWh)	Marginal change	Contribution
		AGL (SA)	TORRB4	Energy	$12 100.00	0.13	$1 573.00
16:50	$13 049.84	Origin Energy	MORTLK11	Energy	$13 049.84	0.50	$6 524.92
		Origin Energy	MORTLK12	Energy	$13 049.84	0.50	$6 524.92
16:55	$13 049.84	Origin Energy	MORTLK11	Energy	$13 049.84	0.50	$6 524.92
		Origin Energy	MORTLK12	Energy	$13 049.84	0.50	$6 524.92
17:00	$13 049.84	Origin Energy	MORTLK11	Energy	$13 049.84	0.50	$6 524.92
		Origin Energy	MORTLK12	Energy	$13 049.84	0.50	$6 524.92
Spot Price		**$12 472/MWh**					

South Australia

Table 14: South Australia price setter 4 pm

DI	Dispatch Price ($/MWh)	Participant	Unit	Service	Offer price ($/MWh)	Marginal change	Contribution
15:35	$13 584.29	Ecogen Energy	NPS	Energy	$14 159.89	0.96	$13 593.49
15:40	$320.00	AGL (SA)	TORRA1	Energy	$320.00	0.09	$28.80
		AGL (SA)	TORRA2	Energy	$320.00	0.09	$28.80
		AGL (SA)	TORRA3	Energy	$320.00	0.09	$28.80
		AGL (SA)	TORRB1	Energy	$320.00	0.18	$57.60
		AGL (SA)	TORRB2	Energy	$320.00	0.18	$57.60
		AGL (SA)	TORRB3	Energy	$320.00	0.18	$57.60
		AGL (SA)	TORRB4	Energy	$320.00	0.18	$57.60
15:45	$320.00	AGL (SA)	TORRA1	Energy	$320.00	0.08	$25.60
		AGL (SA)	TORRA2	Energy	$320.00	0.08	$25.60
		AGL (SA)	TORRA3	Energy	$320.00	0.08	$25.60
		AGL (SA)	TORRA4	Energy	$320.00	0.08	$25.60
		AGL (SA)	TORRB1	Energy	$320.00	0.17	$54.40
		AGL (SA)	TORRB2	Energy	$320.00	0.17	$54.40
		AGL (SA)	TORRB3	Energy	$320.00	0.17	$54.40
		AGL (SA)	TORRB4	Energy	$320.00	0.17	$54.40
15:50	$578.81	EnergyAustralia	AGLHAL	Energy	$578.81	1.00	$578.81
15:55	$12 796.88	Origin Energy	MORTLK11	Energy	$13 049.84	0.49	$6 394.42
		Origin Energy	MORTLK12	Energy	$13 049.84	0.49	$6 394.42
16:00	$12 988.23	Origin Energy	MORTLK11	Energy	$13 049.84	0.50	$6 524.92
		Origin Energy	MORTLK12	Energy	$13 049.84	0.50	$6 524.92
Spot Price		**$6 765/MWh**					

Table 15: South Australia price setter 4.30 pm

DI	Dispatch Price ($/MWh)	Participant	Unit	Service	Offer price ($/MWh)	Marginal change	Contribution
16:05	$11 253.26	Engie	LOYYB2	Energy	$11 499.00	0.98	$11 269.02
16:10	$13 046.51	Origin Energy	MORTLK11	Energy	$13 049.84	0.50	$6 524.92
		Origin Energy	MORTLK12	Energy	$13 049.84	0.50	$6 524.92
16:15	$13 038.92	Origin Energy	MORTLK11	Energy	$13 049.84	0.50	$6 524.92
		Origin Energy	MORTLK12	Energy	$13 049.84	0.50	$6 524.92
16:20	$12 100.00	AGL (SA)	TORRA1	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRA2	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRA3	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRA4	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRB1	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRB2	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRB3	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRB4	Energy	$12 100.00	0.13	$1 573.00
16:25	$12 972.08	Origin Energy	MORTLK11	Energy	$13 049.84	0.50	$6 524.92
		Origin Energy	MORTLK12	Energy	$13 049.84	0.50	$6 524.92
16:30	$13 243.69	Origin Energy	MORTLK11	Energy	$13 049.84	0.51	$6 655.42
		Origin Energy	MORTLK12	Energy	$13 049.84	0.51	$6 655.42
Spot Price		**$12 609/MWh**					

Table 16: South Australia price setter 5 pm

DI	Dispatch Price ($/MWh)	Participant	Unit	Service	Offer price ($/MWh)	Marginal change	Contribution
16:35	$11 288.05	Ecogen Energy	JLB01	Energy	$11 500.80	0.18	$2 070.14
		Ecogen Energy	JLB02	Energy	$11 500.80	0.18	$2 070.14
		Ecogen Energy	JLB03	Energy	$11 500.80	0.62	$7 130.50
16:40	$11 167.21	Ecogen Energy	JLB01	Energy	$11 500.80	0.18	$2 070.14
		Ecogen Energy	JLB02	Energy	$11 500.80	0.18	$2 070.14
		Ecogen Energy	JLB03	Energy	$11 500.80	0.62	$7 130.50
16:45	$12 100.00	AGL (SA)	TORRA1	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRA2	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRA3	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRA4	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRB1	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRB2	Energy	$12 100.00	0.13	$1 573.00
		AGL (SA)	TORRB3	Energy	$12 100.00	0.13	$1 573.00

DI	Dispatch Price ($/MWh)	Participant	Unit	Service	Offer price ($/MWh)	Marginal change	Contribution
		AGL (SA)	TORRB4	Energy	$12 100.00	0.13	$1 573.00
16:50	$12 533.49	Origin Energy	MORTLK11	Energy	$13 049.84	0.48	$6 263.92
		Origin Energy	MORTLK12	Energy	$13 049.84	0.48	$6 263.92
16:55	$12 588.10	Origin Energy	MORTLK11	Energy	$13 049.84	0.48	$6 263.92
		Origin Energy	MORTLK12	Energy	$13 049.84	0.48	$6 263.92
17:00	$12 725.38	Origin Energy	MORTLK11	Energy	$13 049.84	0.49	$6 394.42
		Origin Energy	MORTLK12	Energy	$13 049.84	0.49	$6 394.42
Spot Price		**$12 067/MWh**					