

Electricity spot prices above \$5000/MWh

**1 and 2 February 2011
Queensland**



AUSTRALIAN ENERGY
REGULATOR

Introduction

The AER is required to publish a report covering the circumstances in which the spot price exceeds \$5000/MWh¹. 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.

Summary

On 1 February, the Queensland spot price exceeded \$5000/MWh on three occasions, reaching \$7350/MWh at 4 pm. On 2 February, the spot price exceeded \$5000/MWh on five occasions, reaching \$9044/MWh at 4 pm. None of these prices were forecast.

These high prices were driven by the record demand and high prices in New South Wales, and Queensland generator rebidding:

- On 1 February rebidding by CS Energy, Millmerran, Stanwell and Callide Power Trading saw around 1240 MW of available capacity shifted into prices above \$9000/MWh.
- On 2 February rebidding by CS Energy, Millmerran, Stanwell and Callide Power Trading saw around 770 MW of available capacity shifted into prices above \$9000/MWh.

The AER has published a separate report covering the New South Wales events.

Actual and forecast conditions

Tuesday 1 February

Figures 1 and 2 compare the actual demand, available capacity and spot price in Queensland with that forecast by AEMO 4 and 12 hours ahead of dispatch.

Conditions at the time saw demand higher than forecast, up to 124 MW above that four hours ahead, and up to 134 MW above that forecast twelve hours ahead. Available capacity was close to that forecast. Actual spot prices were significantly higher than forecast for all trading intervals.

¹ Pursuant to clause 3.13.7 (d) of the Electricity Rules.

Figure 1: Actual and forecast demand, spot price and available capacity – 1 February

Tuesday 3.30 pm	Actual	4 hr forecast	12 hr forecast
Demand (MW)	7806	7718	7676
Spot Price (\$MW/h)	6110	305	291
Available capacity (MW)	11 277	11 265	11 326
Tuesday 4 pm	Actual	4 hr forecast	12 hr forecast
Demand (MW)	7834	7710	7700
Spot Price (\$MW/h)	7350	299	291
Available capacity (MW)	11 300	11 273	11 329
Tuesday 4.30 pm	Actual	4 hr forecast	12 hr forecast
Demand (MW)	7803	7717	7702
Spot Price (\$MW/h)	5832	298	290
Available capacity (MW)	11 290	11 271	11 315

Wednesday 2 February

On the Wednesday, demand was generally close to that forecast. Available capacity was up to 238 MW below that forecast four hours ahead, and up to 729 MW below that forecast twelve hours ahead.

Demand in Queensland exceeded that of the previous day, reaching a maximum of 7949 MW for the 2.30 pm trading interval. As for the previous day, prices were significantly higher than forecast.

Figure 2: Actual and forecast demand, spot price and available capacity – 2 February

Wednesday 2.30 pm	Actual	4 hr forecast	12 hr forecast
Demand (MW)	7949	7977	7978
Spot Price (\$MW/h)	5198	4002	295
Available capacity (MW)	10 921	10 998	11 447
Wednesday 3 pm	Actual	4 hr forecast	12 hr forecast
Demand (MW)	7904	7847	7994
Spot Price (\$MW/h)	8219	538	440
Available capacity (MW)	10 846	10 937	11 445
Wednesday 3.30 pm	Actual	4 hr forecast	12 hr forecast
Demand (MW)	7867	7832	7989
Spot Price (\$MW/h)	8088	450	489
Available capacity (MW)	10 840	10 940	11 446
Wednesday 4 pm	Actual	4 hr forecast	12 hr forecast
Demand (MW)	7914	7820	7970
Spot Price (\$MW/h)	9044	450	450
Available capacity (MW)	10 878	10 943	11 449
Wednesday 4.30 pm	Actual	4 hr forecast	12 hr forecast
Demand (MW)	7928	7828	7971
Spot Price (\$MW/h)	8088	450	450
Available capacity (MW)	10 723	10 961	11 452

Generator offers and rebidding

Tuesday 1 February

At 4.44 pm, the day before, Callide Power Trading rebid 204 MW of available capacity at its Callide C Power Station from prices below \$15/MWh to prices above \$11 800/MWh. The reason given was “31/01/11 16:42 1605A cse 30 min pred 2011013125 rvwd”. Further rebids at 9.12 am, 10.21 am and 2.49 pm on the Tuesday, shifted a total of 152 MW of available capacity from prices below \$15/MWh to prices above \$11 800/MWh. The reasons given included “change in Qld sensitivities - sl”, “QNI pd constraint pd_run_201102011” and “Qld price above pd - sl”. This resulted in almost half of Callide’s offered capacity priced above \$11 800/MWh.

Over two rebids at 8.50 am and 2.43 pm, Millmerran Energy Trader rebid 225 MW of available capacity at its Millmerran Power Station from prices below \$10/MWh to above \$12 000/MWh. The reasons given were “08:35 A QNI pd constraint pd_run_2011020110” and “14:40 A: Qld 5min price above predispatch – sl”.

At 12.22 pm, CS Energy rebid 107 MW of available capacity at its Swanbank E power station from prices below \$20/MWh to above \$7930/MWh. The reason given was “1202A SWAN_E price higher then 30min forecast sl”. At 3.07 pm, further rebids across its portfolio saw 430 MW of available capacity shifted from prices of \$6469/MWh and above to greater than \$9800/MWh (the majority at close to the price cap). The reason given was “1506A CS Energy interconnector constraint QNI sl”.

Through a number of short-notice rebids at 3.13 pm, 3.36 pm, 3.47 pm and 4.03 pm, Stanwell Corporation rebid up to 90 MW of available capacity priced below \$300/MWh at its Gladstone Power Station into price bands above \$12 200/MWh. The reason given was “transmission constraint-N_MBTE1_B”.

There was no other significant rebidding.

Wednesday 2 February

Over a number of rebids from 4.18 pm the day before, CS Energy reduced the available capacity across its portfolio by up to 296 MW (all of which was priced above \$9800/MWh). The reasons given included “CALL_B unit availability emissions sl”, “1252P COLNSV_1 unit trip sl”, “1006E COLNSV_5 correct error in previous bid sl”, “KPP_1 ambient conditions sl” and “1217P SWAN_B_3 fabric filter maintenance sl”. CS Energy also rebid up to 292 MW of available capacity across its portfolio from prices below \$45/MWh to above \$9000/MWh. The reasons given were “1605A CS Energy reviewed 30 min predispatch/QNI constrained SL” and “1401A SWAN_E price lower than 30min forecast sl”.

At 4.26 pm the day before, Callide Power Trading rebid 204 MW of available capacity at Callide C Power Station from prices below \$15/MWh to above \$11 800/MWh. The reason given was “01/02/211 16:24 1605 reviewed predispatch-QNI cons”. Then at 10.01 am on Wednesday, it reduced the available capacity of Callide C Power by 70 MW (all of which was priced below \$15/MWh) and rebid 98 MW of available capacity from prices below \$15/MWh to above \$11 800/MWh. The reason given was “02/02/11 09:59 1000A steam feed max::max load”. This resulted in almost 40 per cent of Callide’s offered capacity being priced above \$11 800/MWh.

At 9.20 am, AGL Hydro reduced the availability of at its Yabulu Power Station by 234 MW (all of which was priced at or below zero). The reason given was “09:15P reduction in avail cap::TC Yasi”².

At 9.52 am, Millmerran Energy Trader rebid 185 MW of available capacity at its Millmerran Power Station from prices below \$10/MWh to above \$12 000/MWh. The reason given was “09:51 A: change in Qld 30min pd price - sl”.

At 2.20 pm, Origin Energy reduced the available capacity of its Mt Stuart Power Station unit three by 115 MW (all of which was priced below \$560/MWh). The reason given was “1411P chge in avail – shutdown of east Townsville substation sl”. At 4.03 pm, Origin Energy reduced the available capacity of its Darling Downs power station by 190 MW (all of which was priced below \$50/MWh). The reason given was “1552P change in avail – gt2 trip rts unknown sl”.

At 3.26 pm, Stanwell Corporation rebid up to 50 MW of available capacity priced below \$300/MWh at its Gladstone Power Station into price bands above \$12 200/MWh. The reason given was “1523A transmission constraint-QNI”.

It can be seen from the above summary that a large amount of rebidding occurred on the relevant days, which significantly contributed to the high prices in Queensland.

The generators involved in setting the price during the high-price period, and how that price was determined by the market systems is detailed in **Appendix A**.

The closing bids for all participants in Queensland with capacity priced at or above \$5000/MWh are presented in **Appendix B**.

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² On Wednesday 2 February at 12.10 pm, AEMO advised market participants of the imminent category five Tropical Cyclone Yasi. The market notice informed participants that the cyclone was expected to cross the coast in the Innisfail area south of Cairns at about midnight.

Appendix A – Price setters for 1 and 2 February 2011

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. 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 1 February – 3.30 pm

Time	Dispatch price	Participant	Unit	Service	Offer price	Marginal change	Contribution
15:05	\$6857.54	CS Energy	CALL_B_2	Energy	\$6857.54	1.00	\$6857.54
15:10	\$298.76	Tarong Energy	TNPS1	Energy	\$298.76	1.00	\$298.76
15:15	\$298.76	Tarong Energy	TNPS1	Energy	\$298.76	1.00	\$298.76
15:20	\$9967.78	CS Energy	SWAN_B_3	Energy	\$9967.87	1.00	\$9967.87
		CS Energy	SWAN_B_3	Lower 5 min	\$0.01	1.00	\$0.01
		TRUenergy	MP1	Lower reg	\$0.10	-1.00	-\$0.10
15:25	\$9265.61	Macquarie Generation	BW02	Energy	\$12 006.00	0.77	\$9266.23
15:30	\$9970.38	CS Energy	SWAN_B_1	Energy	\$9967.87	1.00	\$9967.87
		Vic Power Trader	APD01	Raise 5 min	\$4.51	1.00	\$4.51
		CS Energy	SWAN_B_1	Raise reg	\$2.00	-1.00	-\$2.00
Spot price	\$6110/MWh						

Tuesday 1 February – 4 pm

Time	Dispatch price	Participant	Unit	Service	Offer price	Marginal change	Contribution
15:35	\$9881.99	Delta Electricity	VP6	Energy	\$12 399.00	0.80	\$9882.00
15:40	\$318.17	Origin Energy	DDPS1	Energy	\$318.17	1.00	\$318.17
15:45	\$9570.37	Macquarie Generation	BW01	Energy	\$12 008.00	0.80	\$9570.38
15:50	\$4887.57	Tarong Energy	W/HOE#2	Energy	\$4887.57	1.00	\$4887.57
15:55	\$9719.31	Macquarie Generation	BW04	Energy	\$12 002.00	0.81	\$9719.22
16:00	\$9722.55	Macquarie Generation	BW02	Energy	\$12 006.00	0.81	\$9722.46
Spot price	\$7350/MWh						

Tuesday 1 February – 4.30 pm

Time	Dispatch price	Participant	Unit	Service	Offer price	Marginal change	Contribution
16:05	\$318.17	Origin Energy	DDPS1	Energy	\$318.17	1.00	\$318.17
16:10	\$9565.58	Macquarie Generation	BW04	Energy	\$12 002.00	0.80	\$9565.59
16:15	\$8639.75	Macquarie Generation	LD01	Energy	\$9952.00	0.87	\$8639.33
		Hydro Tasmania	CETHANA	Raise 5 min	\$1.90	0.04	\$0.08
		Macquarie Generation	LD01	Raise reg	\$0.01	-0.04	\$0.00
16:20	\$6690.80	Macquarie Generation	BW02	Energy	\$7706.00	0.87	\$6691.12
16:25	\$4887.57	Tarong Energy	W/HOE#2	Energy	\$4887.57	1.00	\$4887.57
16:30	\$4887.57	Tarong Energy	W/HOE#2	Energy	\$4887.57	1.00	\$4887.57
Spot price	\$5832/MWh						

Wednesday 2 February – 2.30 pm

Time	Dispatch price	Participant	Unit	Service	Offer price	Marginal change	Contribution
14:05	\$537.69	Origin Energy	MSTUART3	Energy	\$537.69	1.00	\$537.69
14:10	\$4887.57	Tarong Energy	W/HOE#2	Energy	\$4887.57	1.00	\$4887.57
14:15	\$6710.13	Macquarie Generation	BW04	Energy	\$7502.00	0.89	\$6710.54
14:20	\$5794.48	AGL (SA)	TORRB4	Energy	\$58.77	7.44	\$437.22
		AGL Hydro	MCKAY1	Energy	\$47.86	-1.32	-\$62.99
		Snowy Hydro	UPPTUMUT	Energy	-\$1000.00	-5.42	\$5420.40
		CS Energy	CALL_B_2	Raise reg	\$4.75	2.02	\$9.59
		AGL (SA)	TORRB4	Raise reg	\$3.50	-7.44	-\$26.04
		Snowy Hydro	UPPTUMUT	Raise reg	\$3.00	5.42	\$16.26
14:25	\$6554.45	Snowy Hydro	MURRAY	Energy	\$146.16	6.51	\$952.06
		AGL Hydro	MCKAY1	Energy	\$47.86	0.01	\$0.36
		Snowy Hydro	UPPTUMUT	Energy	-\$1000.00	-5.61	\$5613.20
		CS Energy	SWAN_E	Raise reg	\$5.00	-5.61	-\$28.07
		Snowy Hydro	UPPTUMUT	Raise reg	\$3.00	5.61	\$16.84
14:30	\$6704.45	Macquarie Generation	BW04	Energy	\$7502.00	0.89	\$6704.54
Spot price	\$5198/MWh						

Wednesday 2 February – 3 pm

Time	Dispatch price	Participant	Unit	Service	Offer price	Marginal change	Contribution
14:35	\$6882.57	Macquarie Generation	BW02	Energy	\$7706.00	0.89	\$6882.23
		Hydro Tasmania	REECE2	Energy	\$33.98	0.40	\$13.52
		Basslink	T-V-MNSP1,VIC1	Energy	\$0.01	0.36	\$0.00
		AGL Hydro	MCKAY1	Energy	-\$1000.00	-0.04	\$39.80
		AGL Hydro	WKIEWA2	Energy	-\$1000.00	0.00	\$2.00
		Hydro Tasmania	GORDON	Lower 6 sec	\$0.01	0.47	\$0.00
		Hydro Tasmania	REECE2	Lower 6 sec	\$0.01	-0.11	\$0.00
		AGL (SA)	TORRB3	Raise 60 sec	\$0.04	0.36	\$0.01
		TRUenergy (Vic)	YWPS2	Raise 6 sec	\$0.05	0.36	\$0.02
14:45	\$7780.07	Snowy Hydro	GUTHEGA	Energy	\$12 499.00	0.62	\$7701.88
		Ecogen Energy	NPS	Energy	\$40.69	0.35	\$14.12
		AGL Hydro	DARTM1	Energy	-\$1000.00	-0.02	\$17.80
		AGL Hydro	MCKAY1	Energy	-\$1000.00	-0.04	\$39.80
		AGL Hydro	WKIEWA1	Energy	-\$1000.00	0.00	\$4.00
		AGL Hydro	WKIEWA2	Energy	-\$1000.00	0.00	\$2.00
14:50	\$9010.27	Macquarie Generation	LD02	Energy	\$9954.00	0.91	\$9010.36
14:55	\$9918.98	CS Energy	SWAN_E	Energy	\$9914.98	1.00	\$9914.98
		AGL (SA)	TORRB2	Raise 5 min	\$5.00	1.00	\$5.00
		CS Energy	SWAN_E	Raise reg	\$1.00	-1.00	-\$1.00
15:00	\$7939.33	CS Energy	SWAN_E	Energy	\$7939.33	1.00	\$7939.33
14:35	\$6882.57	Macquarie Generation	BW02	Energy	\$7706.00	0.89	\$6882.23
14:40	\$7780.52	Snowy Hydro	GUTHEGA	Energy	\$12 499.00	0.62	\$7703.13
		Hydro Tasmania	REECE2	Energy	\$33.98	0.40	\$13.52
Spot price		\$8219/MWh					

Wednesday 2 February – 3.30 pm

Time	Dispatch price	Participant	Unit	Service	Offer price	Marginal change	Contribution
15:05	\$9917.98	CS Energy	SWAN_E	Energy	\$9914.98	1.00	\$9914.98
		AGL (SA)	TORRB2	Raise 5 min	\$5.00	1.00	\$5.00
		CS Energy	SWAN_E	Raise reg	\$2.00	-1.00	-\$2.00
15:10	\$9919.48	CS Energy	SWAN_E	Energy	\$9914.98	1.00	\$9914.98
		AGL (SA)	TORRB3	Raise 5 min	\$5.00	1.00	\$5.00
		CS Energy	SWAN_E	Raise reg	\$0.50	-1.00	-\$0.50
15:15	\$6742.29	Macquarie Generation	BW02	Energy	\$7706.00	0.87	\$6741.98
15:20	\$8655.39	Macquarie Generation	LD04	Energy	\$9958.00	0.87	\$8655.49
		AGL (SA)	TORRB4	Raise reg	\$3.50	0.04	\$0.15
		Macquarie Generation	LD04	Raise reg	\$0.04	-0.04	\$0.00
15:25	\$3490.80	AGL Hydro	OAKY1	Energy	\$3490.80	1.00	\$3490.80
15:30	\$9804.62	Eraring Energy	SHGEN	Energy	\$12 400.01	0.79	\$9796.01
		AGL (SA)	TORRB2	Energy	\$48.77	0.12	\$5.71
		AGL (SA)	TORRB3	Energy	\$48.77	0.12	\$5.71
		AGL (SA)	TORRB4	Energy	\$48.77	0.12	\$5.71
		Snowy Hydro	MURRAY	Energy	\$30.10	-0.29	-\$8.62
		Hydro Tasmania	GORDON	Lower 5 min	\$0.01	-0.35	\$0.00
Spot price		\$8088/MWh					

Wednesday 2 February – 4 pm

Time	Dispatch price	Participant	Unit	Service	Offer price	Marginal change	Contribution
15:35	\$9871.59	Eraring Energy	SHGEN	Energy	\$12 400.01	0.80	\$9865.45
		AGL Hydro	DARTM1	Energy	\$80.00	0.08	\$6.78
15:40	\$9890.89	Eraring Energy	SHGEN	Energy	\$12 400.01	0.80	\$9865.45
		Snowy Hydro	MURRAY	Energy	\$294.69	0.08	\$24.99
15:45	\$7940.93	CS Energy	SWAN_E	Energy	\$7939.33	1.00	\$7939.33
		Tarong Energy	TARONG#1	Raise reg	\$5.00	1.00	\$5.00
		CS Energy	SWAN_E	Raise reg	\$3.40	-1.00	-\$3.40
15:50	\$9893.66	Eraring Energy	SHGEN	Energy	\$12 400.01	0.80	\$9869.17
		Snowy Hydro	MURRAY	Energy	\$294.69	0.08	\$24.99
15:55	\$6697.06	Macquarie Generation	BW03	Energy	\$7604.00	0.88	\$6696.84
16:00	\$9967.87	CS Energy	SWAN_B_3	Energy	\$9967.87	1.00	\$9967.87
Spot price		\$9044/MWh					

Wednesday 2 February – 4.30 pm

Time	Dispatch price	Participant	Unit	Service	Offer price	Marginal change	Contribution
16:05	\$10 216.96	Eraring Energy	SHGEN	Energy	\$12 400.01	0.82	\$10 191.57
		Snowy Hydro	MURRAY	Energy	\$294.69	0.09	\$25.73
		AGL Hydro	DARTM1	Energy	\$80.00	0.00	\$0.00
16:10	\$9181.50	Macquarie Generation	LD02	Energy	\$9954.00	0.92	\$9181.57
16:15	\$7109.37	Macquarie Generation	BW02	Energy	\$7706.00	0.92	\$7109.56
16:20	\$7157.69	Macquarie Generation	BW02	Energy	\$7706.00	0.93	\$7158.10
16:25	\$7939.35	CS Energy	SWAN_E	Energy	\$7939.33	1.00	\$7939.33
		AGL (SA)	TORRB3	Raise 60 sec	\$0.04	0.57	\$0.02
		CS Energy	SWAN_E	Raise 60 sec	\$0.01	-0.57	-\$0.01
16:30	\$6925.43	Macquarie Generation	BW04	Energy	\$7502.00	0.92	\$6925.10
Spot price		\$8088/MWh					

Appendix B – Closing Bids

Figures B1 – B14 highlight the half hour closing bids for participants in Queensland with significant capacity priced at or above \$5000/MWh during the trading interval in which the spot price exceeded \$5000/MWh. They also show generation output and the spot price.

Figure B1: Origin Energy closing bid prices, dispatch and spot price on 1 February

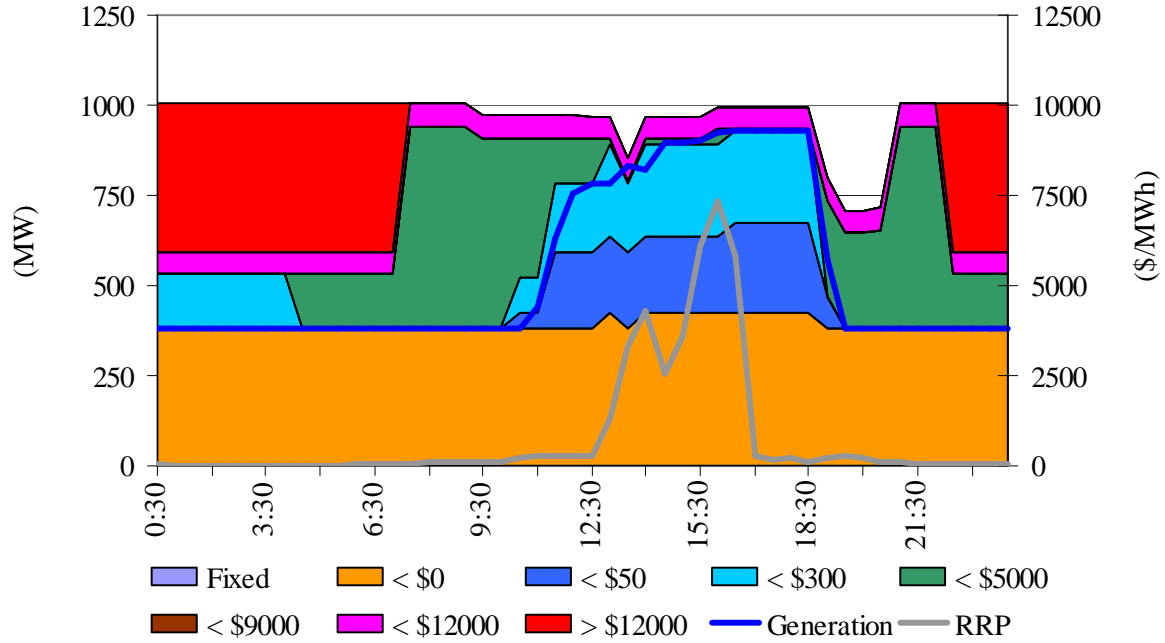


Figure B2: Callide Power Trading closing bid prices, dispatch and spot price on 1 February

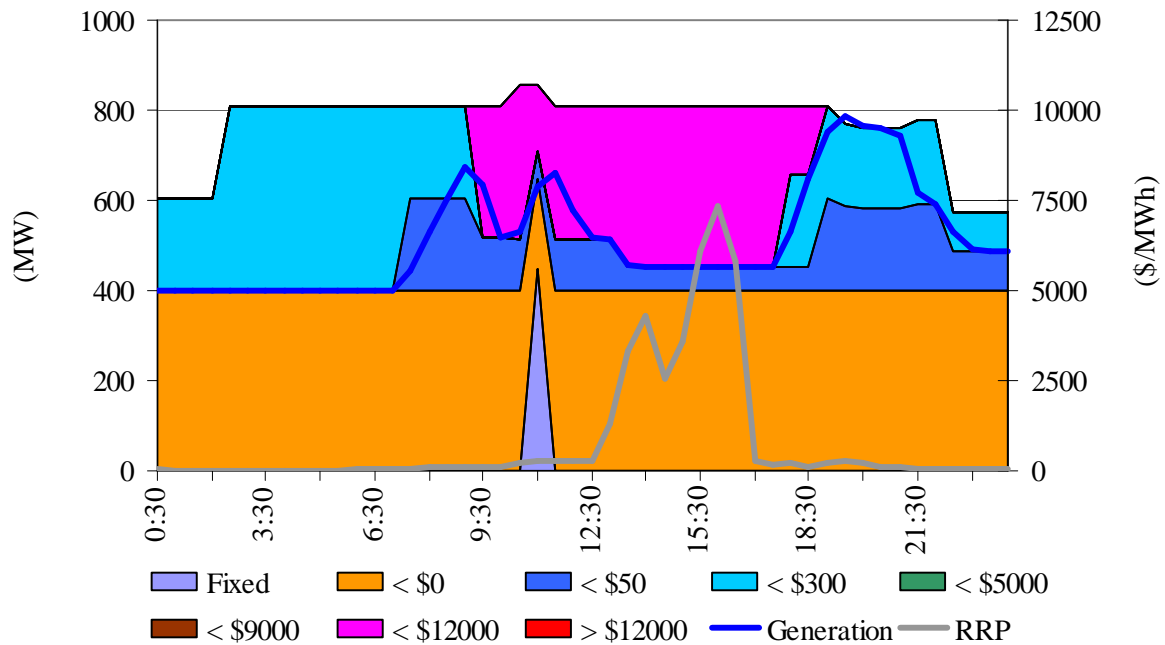


Figure B3: CS Energy closing bid prices, dispatch and spot price on 1 February

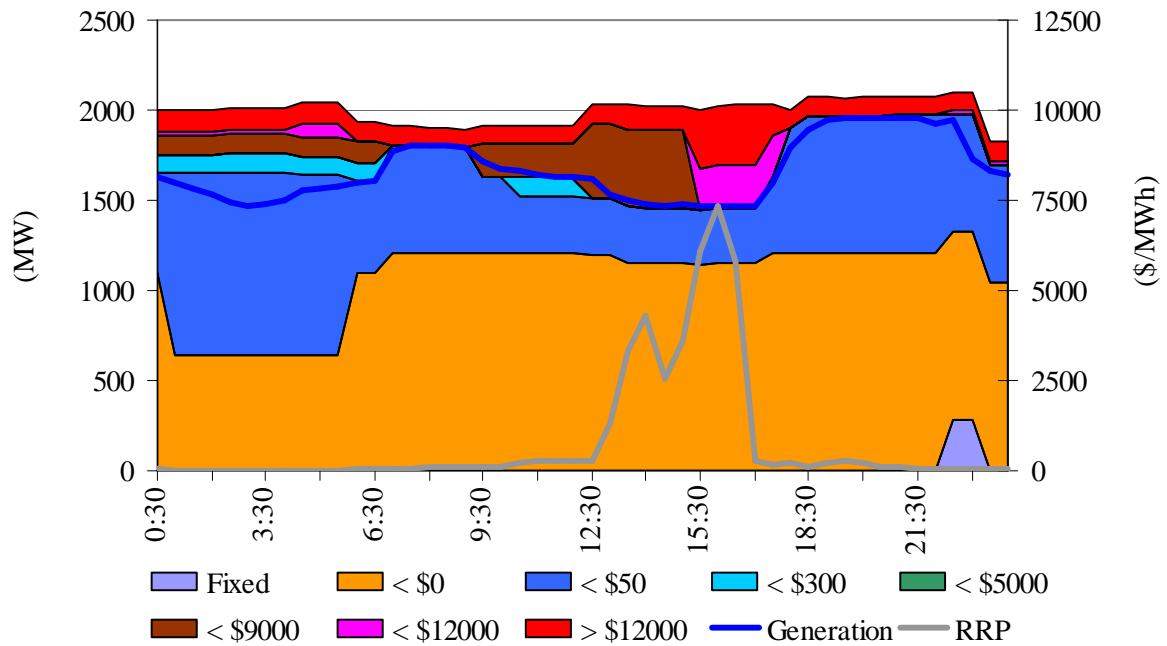


Figure B4: Millmerran Energy Trader closing bid prices, dispatch and spot price on 1 February

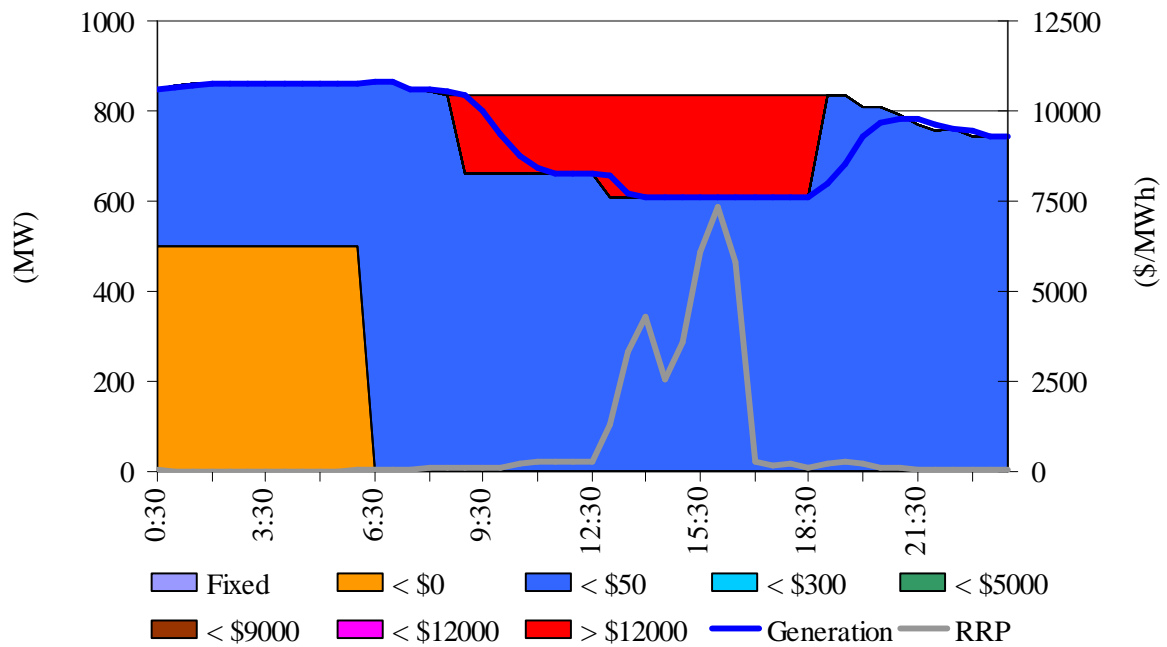


Figure B5: Stanwell Corporation closing bid prices, dispatch and spot price on 1 February

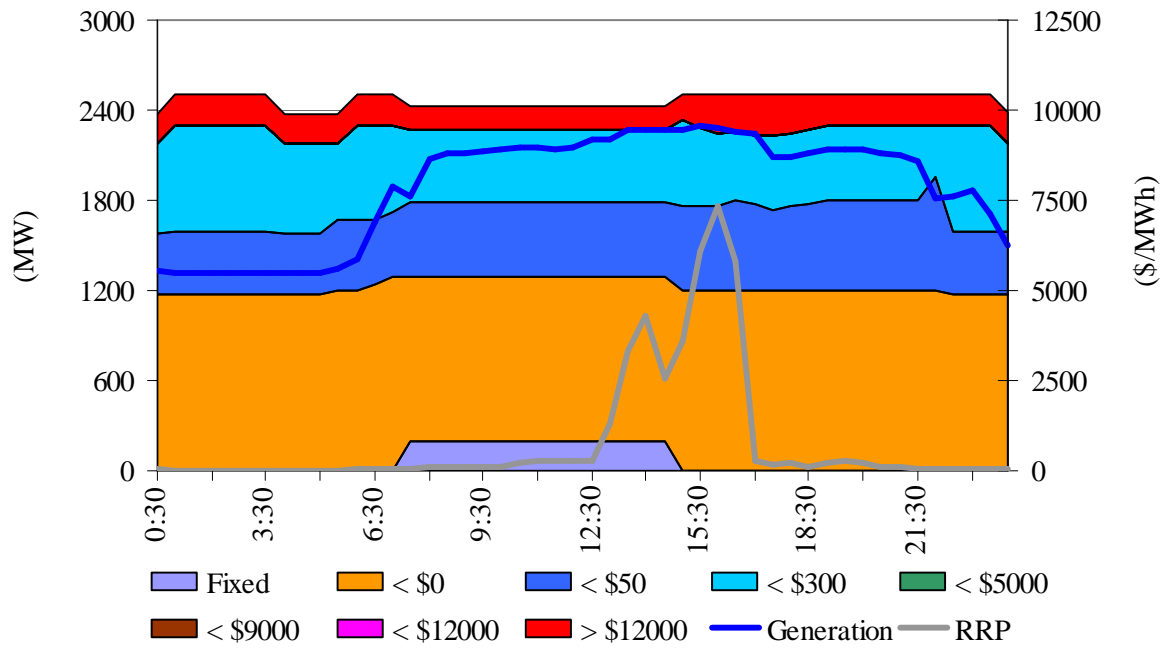


Figure B6: Tarong Energy closing bid prices, dispatch and spot price on 1 February

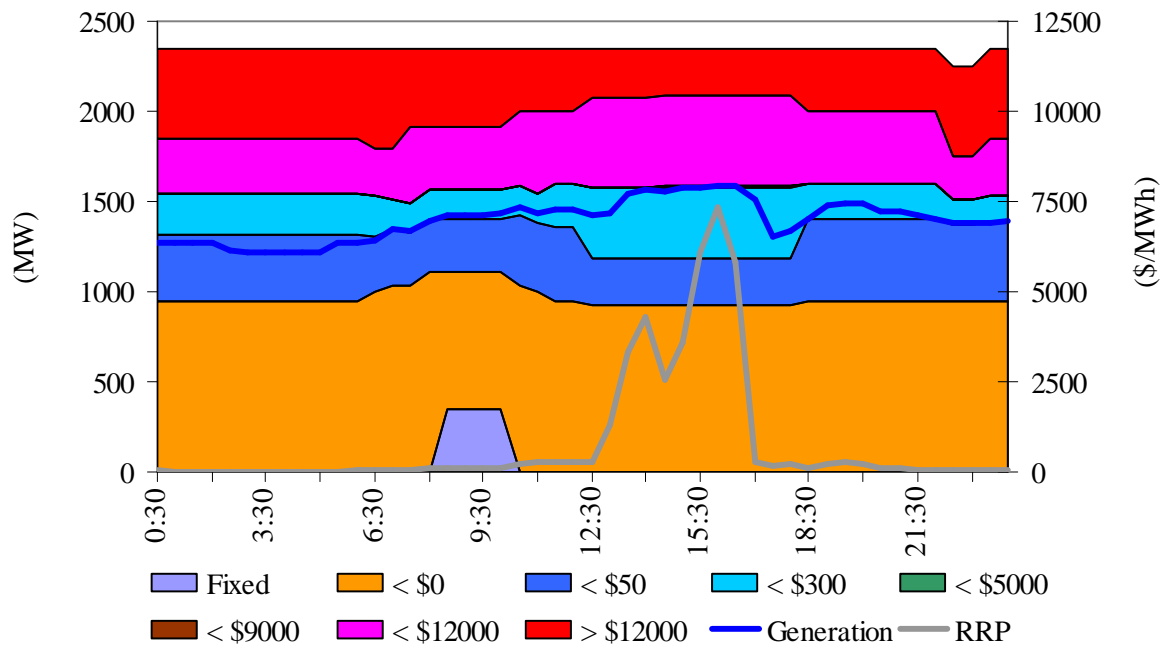


Figure B7: ERM Power closing bid prices, dispatch and spot price on 1 February

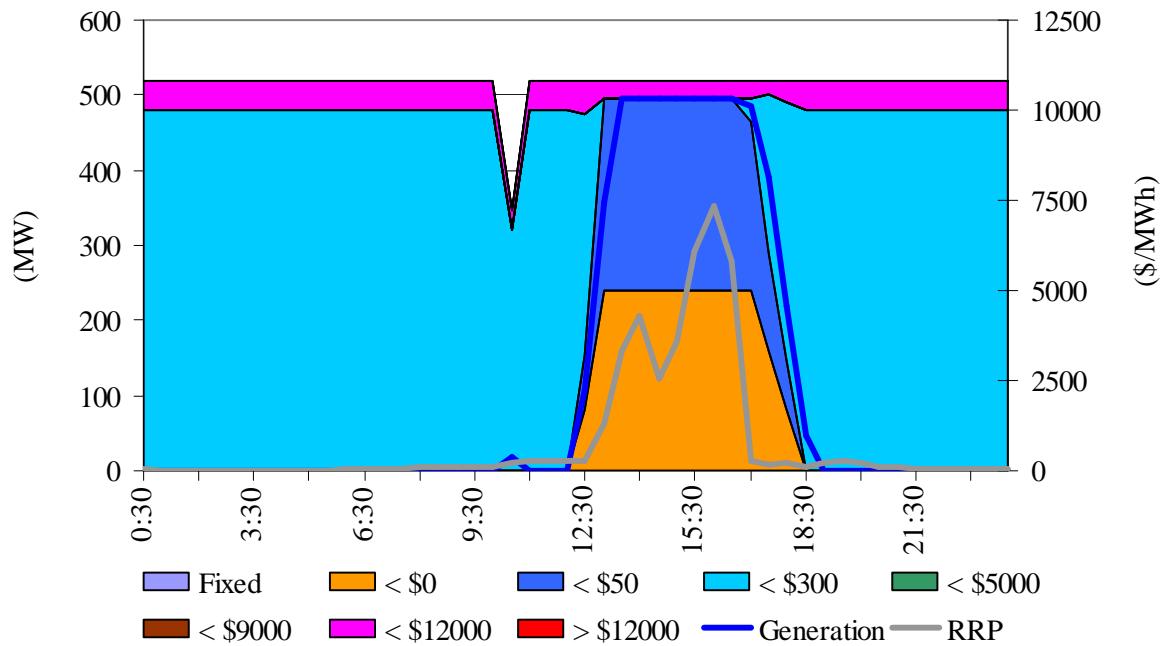


Figure B8: Origin Energy closing bid prices, dispatch and spot price on 2 February

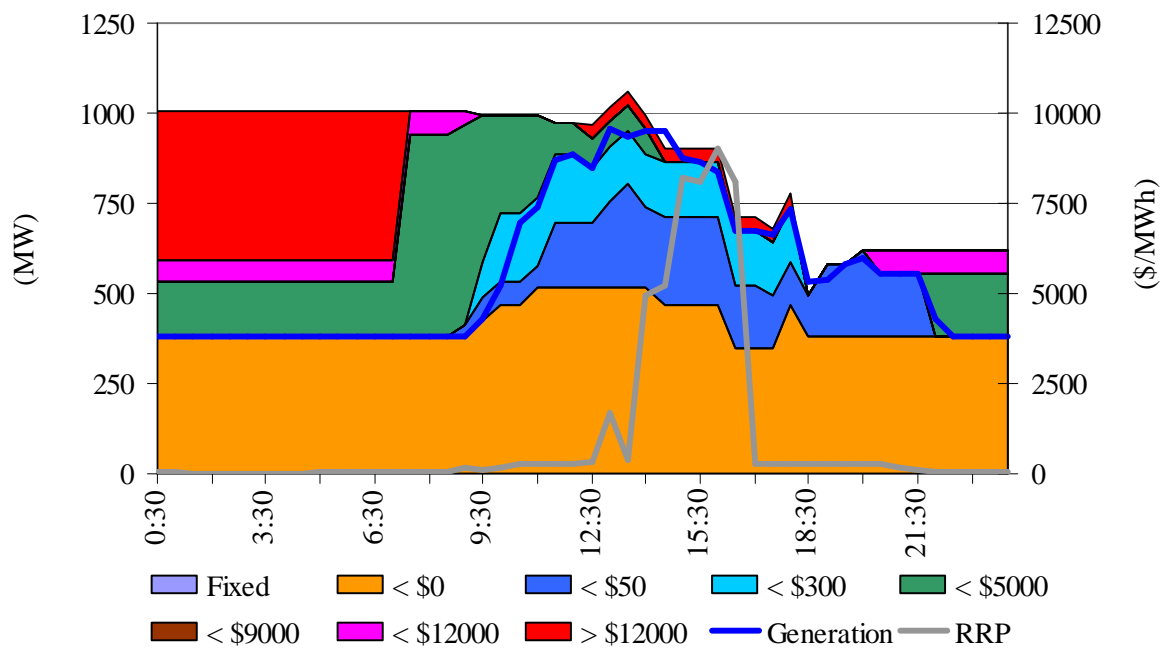


Figure B9: Callide Power Trading closing bid prices, dispatch and spot price on 2 February

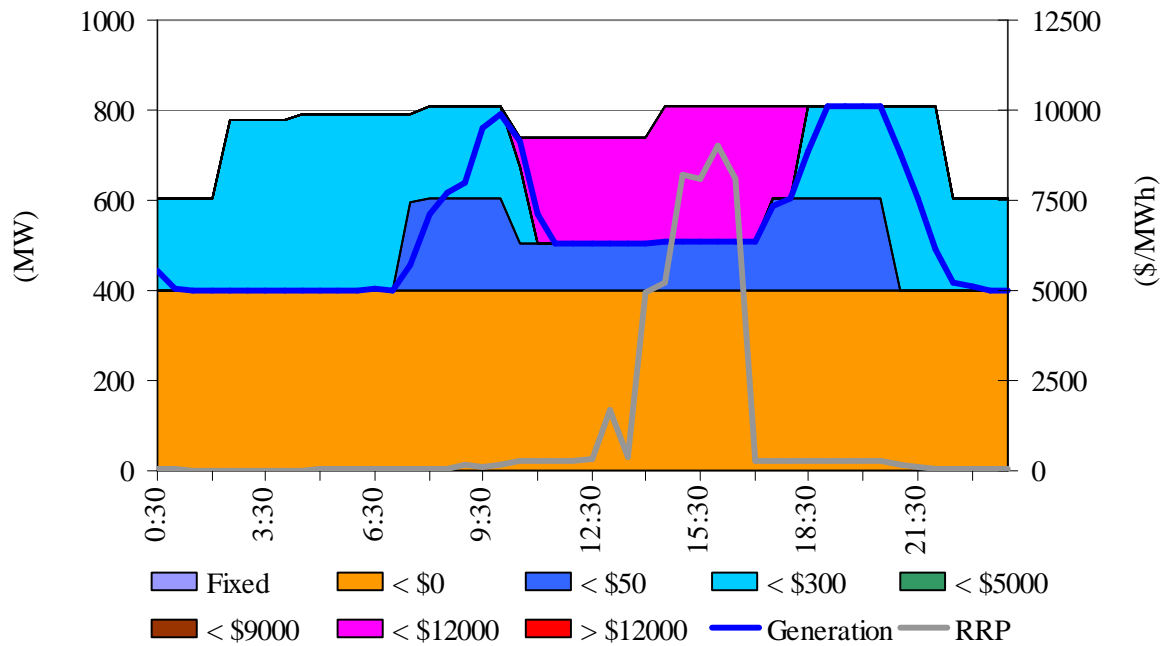


Figure B10: CS Energy closing bid prices, dispatch and spot price on 2 February

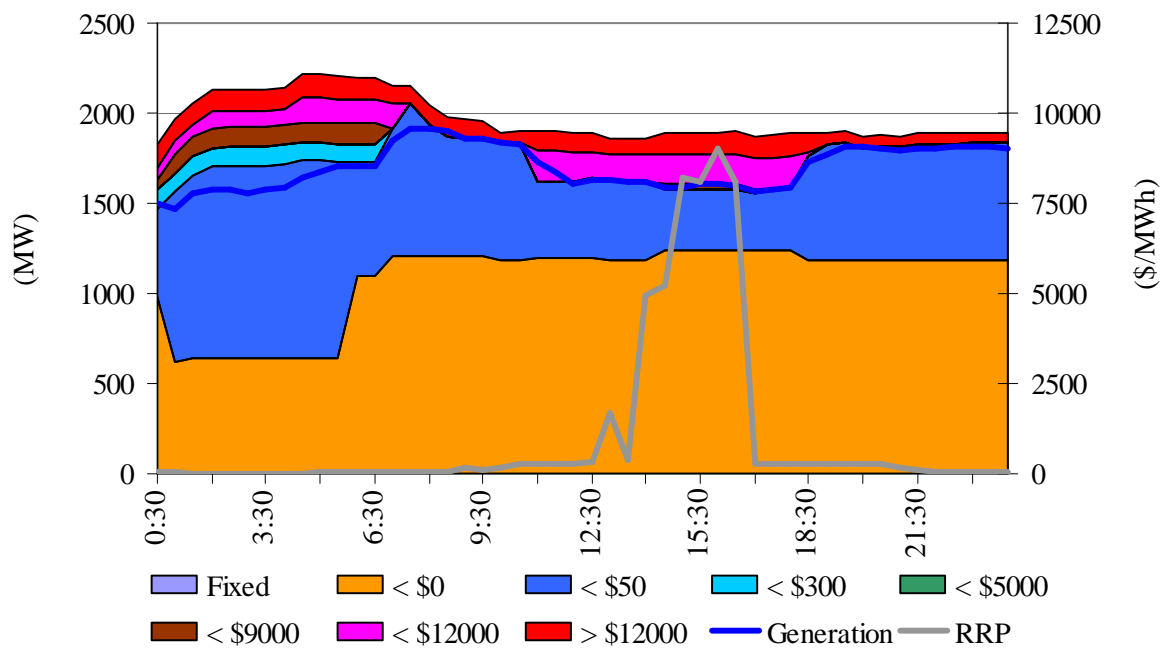


Figure B11: Millmerran Energy Trader closing bid prices, dispatch and spot price on 2 February

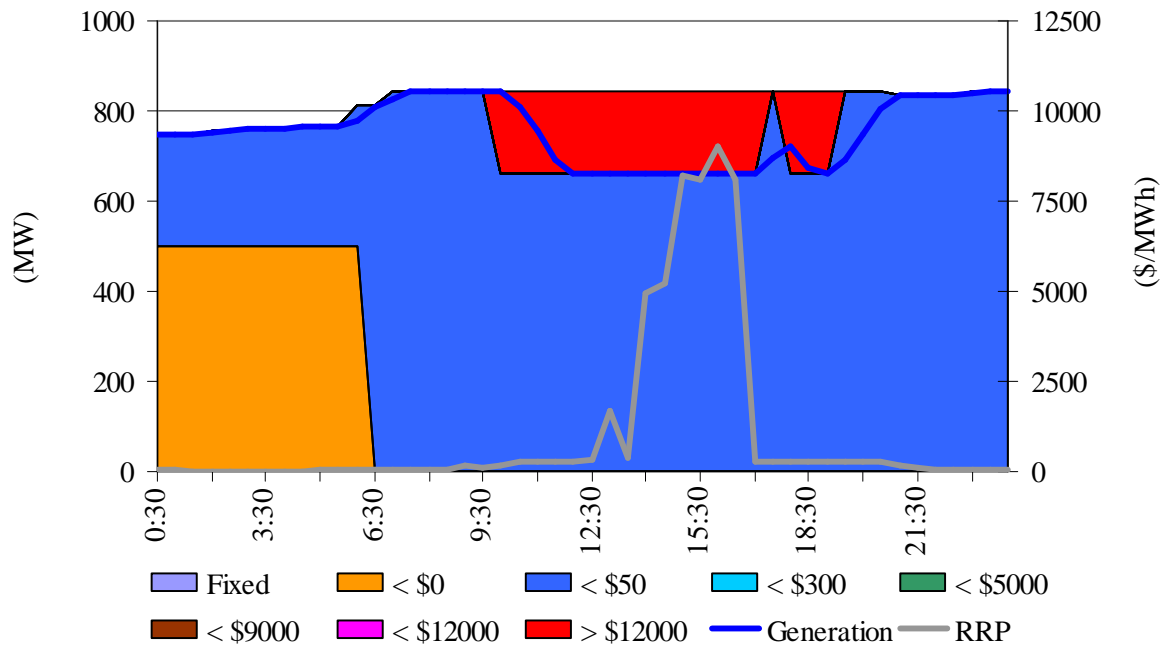


Figure B12: Stanwell Corporation closing bid prices, dispatch and spot price on 2 February

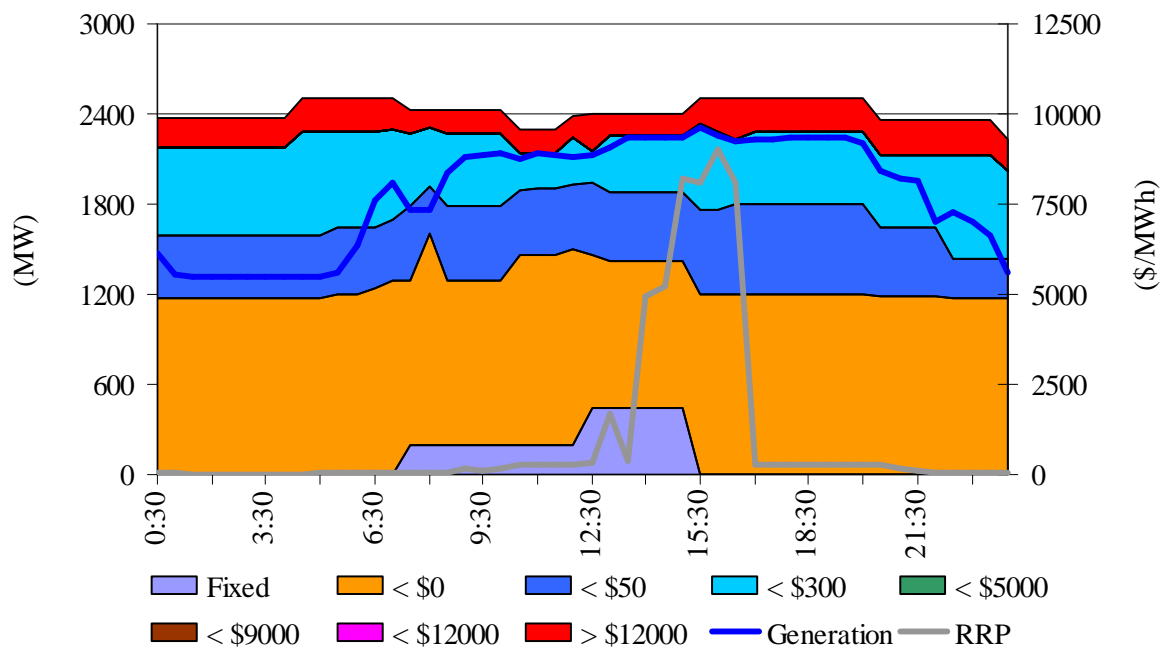


Figure B13: Tarong Energy closing bid prices, dispatch and spot price on 2 February

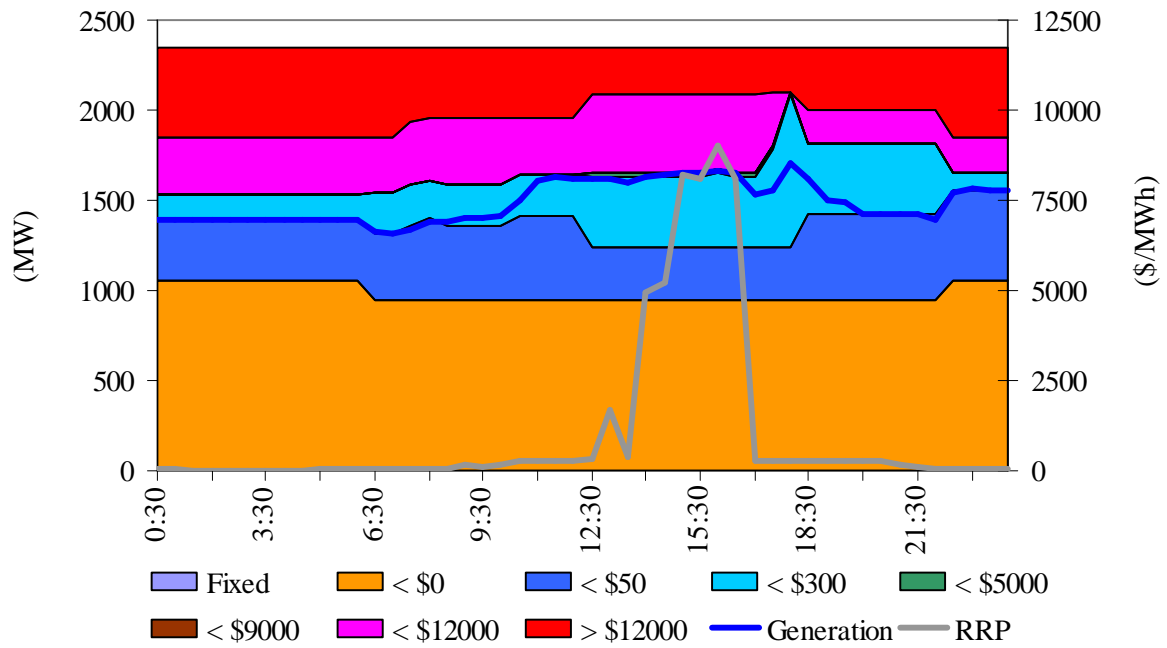
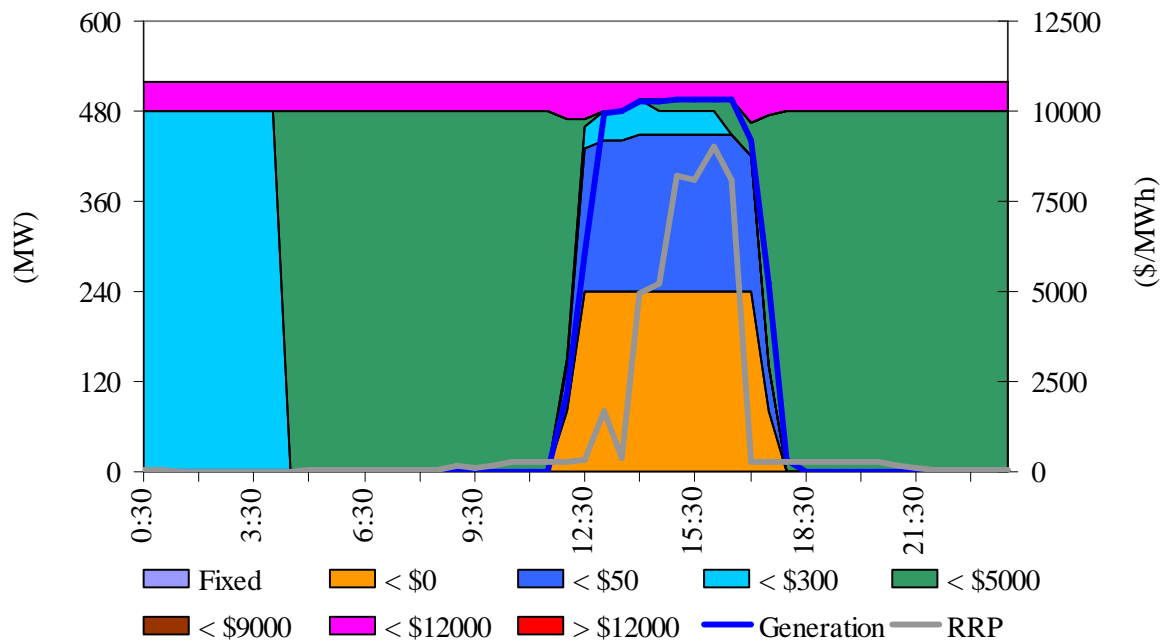


Figure B14: ERM Power closing bid prices, dispatch and spot price on 2 February



Appendix C - Actual and forecast demand, spot price and available capacity

As part of its Weekly Market Analysis reports, the AER provides further information if the spot price exceeds three times the weekly average for a region and is above \$250/MWh. On 1 February there were eight trading intervals and on 2 February seven trading interval where this occurred in Queensland. All of these high prices were related to the events that are explained as part of this report.

Figure C1: Actual and forecast demand, spot price and available capacity – 1 February

Tuesday 1 pm	Actual	4 hr forecast	12 hr forecast
Demand (MW)	7702	7593	7560
Spot Price (\$MW/h)	1309	270	268
Available capacity (MW)	11 298	11 261	11 334
Tuesday 1.30 pm	Actual	4 hr forecast	12 hr forecast
Demand (MW)	7734	7635	7592
Spot Price (\$MW/h)	3289	291	270
Available capacity (MW)	11 282	11 259	11 331
Tuesday 2 pm	Actual	4 hr forecast	12 hr forecast
Demand (MW)	7769	7691	7672
Spot Price (\$MW/h)	4317	295	286
Available capacity (MW)	11 294	11 252	11 329
Tuesday 2.30 pm	Actual	4 hr forecast	12 hr forecast
Demand (MW)	7821	7745	7725
Spot Price (\$MW/h)	2553	291	290
Available capacity (MW)	11 304	11 251	11 327
Tuesday 3 pm	Actual	4 hr forecast	12 hr forecast
Demand (MW)	7804	7740	7734
Spot Price (\$MW/h)	3572	316	290
Available capacity (MW)	11 297	11 090	11 325
Tuesday 3.30 pm	Actual	4 hr forecast	12 hr forecast
Demand (MW)	7806	7718	7676
Spot Price (\$MW/h)	6110	305	291
Available capacity (MW)	11 277	11 265	11 326
Tuesday 4 pm	Actual	4 hr forecast	12 hr forecast
Demand (MW)	7834	7710	7700
Spot Price (\$MW/h)	7350	299	291
Available capacity (MW)	11 300	11 273	11 329
Tuesday 4.30 pm	Actual	4 hr forecast	12 hr forecast
Demand (MW)	7803	7717	7702
Spot Price (\$MW/h)	5832	298	290
Available capacity (MW)	11 290	11 271	11 315

Figure C2: Actual and forecast demand, spot price and available capacity – 2 February

Wednesday 1 pm	Actual	4 hr forecast	12 hr forecast
Demand (MW)	7845	7851	7821
Spot Price (\$MW/h)	1700	290	296
Available capacity (MW)	10 922	11 276	11 454
Wednesday 2 pm	Actual	4 hr forecast	12 hr forecast
Demand (MW)	7926	7955	7938
Spot Price (\$MW/h)	4923	3491	295
Available capacity (MW)	10 835	10 998	11 449
Wednesday 2.30 pm	Actual	4 hr forecast	12 hr forecast
Demand (MW)	7949	7977	7978
Spot Price (\$MW/h)	5198	4002	295
Available capacity (MW)	10 921	10 998	11 447
Wednesday 3 pm	Actual	4 hr forecast	12 hr forecast
Demand (MW)	7904	7847	7994
Spot Price (\$MW/h)	8219	538	440
Available capacity (MW)	10 846	10 937	11 445
Wednesday 3.30 pm	Actual	4 hr forecast	12 hr forecast
Demand (MW)	7867	7832	7989
Spot Price (\$MW/h)	8088	450	489
Available capacity (MW)	10 840	10 940	11 446
Wednesday 4 pm	Actual	4 hr forecast	12 hr forecast
Demand (MW)	7914	7820	7970
Spot Price (\$MW/h)	9044	450	450
Available capacity (MW)	10 878	10 943	11 449
Wednesday 4.30 pm	Actual	4 hr forecast	12 hr forecast
Demand (MW)	7928	7828	7971
Spot Price (\$MW/h)	8088	450	450
Available capacity (MW)	10 723	10 961	11 452