# Electricity spot prices above \$5000/MWh

8-10 February 2010
South Australia and Victoria



#### Introduction

The AER is required to publish a report whenever the electricity spot price exceeds \$5000/MWh. 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

From 8 to 10 February 2010, Melbourne and Adelaide experienced high temperatures leading to high demands.

**On Monday 8 February**, the spot price exceeded \$5000/MWh in both South Australia and Victoria for two trading intervals, reaching a maximum of \$8431/MWh and \$6482/MWh respectively, at 4 pm. These prices were much greater than forecast.

The combined demand in South Australia and Victoria was around 1000 MW greater than forecast 12 hours ahead of dispatch and around 540 MW greater than forecast 4 hours ahead.

In South Australia just over a quarter of the capacity offered into the market day ahead was priced above \$8900/MWh. The majority of this was offered by AGL.

In Victoria the high ambient temperature led to a reduction in available capacity during the day for technical reasons.

In addition, import capability into both regions was lower than forecast four hours ahead.

**On Tuesday 9 February**, spot prices reached the price cap for five trading intervals in South Australia and exceeded \$5000/MWh for another four trading intervals. The spot price in Victoria exceeded \$5000/MWh for two trading intervals, reaching \$6247/MWh at 4 pm and \$7847/MWh at 4.30 pm. Again, high temperatures drove high demand in both regions.

The majority of these high prices were close to forecast 12 hours ahead of dispatch but significantly greater than the 4 hour ahead forecasts. This fluctuation in prices resulted from changes in available capacity, rebidding, and lower than forecast imports.

In South Australia, just over a quarter of available capacity offered into the market day ahead was priced at above \$8900/MWh. The majority of this was offered by AGL.

<sup>&</sup>lt;sup>1</sup> This requirement is set out in clause 3.13.7 (d) of the National Electricity Rules.

At around 4.30 pm, following the reclassification of transmission lines in Victoria, which forced flows out of South Australia, reserves fell below the size of the largest unit and a Lack of Reserve Level 2 condition<sup>2</sup> (LOR2) was declared in South Australia.

On Wednesday 10 February, South Australia experienced further high temperatures driving high demand. Spot prices exceeded \$5000/MWh twice, reaching \$8824/MWh at 2.30 pm and \$6787/MWh at 3 pm. The cumulative price reached \$140 000 at 3.30 pm, just short of the Cumulative Price Threshold (CPT)<sup>3</sup>. Imports across both the Murraylink and Heywood interconnectors were lower than forecast. On Tuesday (the day ahead) at around 6 pm, AGL rebid 240 MW from prices below \$50/MWh to above \$9000/MWh. This saw around 630 MW of capacity offered into the market day ahead priced at above \$8900/MWh (half of which was offered by AGL).

The price did not exceed \$5000/MWh in Victoria on Wednesday.

#### Actual and forecast demand

Figures 1 to 5 compare the actual demand and spot price in South Australia and Victoria with that forecast by AEMO four and 12 hours ahead of dispatch.

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 8, 9 and 10 February there were numerous trading intervals (see Appendix A) in South Australia and Victoria where this occurred (on 17 of these occasions the spot price exceeded \$5000/MWh). As all of these high prices were all caused by related events, they have been explained as part of this report.

### Monday 8 February

#### **South Australia**

Figure 1: Actual and forecast demand, and spot price in South Australia on Monday 8 February

4 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	2962	2878	2703
Spot Price (\$MW/h)	8431	3830	1500
4:30 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	2980	2900	2722
Spot Price (\$MW/h)	6719	2531	1500

Around 130 MW of non-scheduled generation is not included in this demand figure. Actual non-scheduled generation was close to forecast

On the day, the temperature in Adelaide reached a maximum of 38.1°C. This drove high demand in South Australia, reaching a maximum for the day of 2980 MW<sup>4</sup> at 4.30 pm.

Conditions at the time saw demand up to 84 MW greater than forecast four hours ahead and around 260 MW greater than forecast 12 hours ahead. Available capacity was slightly higher than forecast four hours ahead. The error in demand forecast contributed to prices being than forecast.

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<sup>&</sup>lt;sup>2</sup> LOR2 condition means that there are not sufficient reserves in the region to cater for the loss of the largest contingency in the region. The largest contingency is the greater of the loss of the largest generator in the region or the loss of flow through an interconnector into the region.

<sup>&</sup>lt;sup>3</sup> The CPT is currently \$150 000. When the sum of the previous 336 trading intervals exceeds \$150 000, the spot price is capped at the administered price cap (currently \$300/MWh).

<sup>&</sup>lt;sup>4</sup> The record demand in South Australia is 3318 MW.

#### Victoria

Figure 2: Actual and forecast demand and spot price in Victoria on Monday 8 February

4 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	9506	9055	8772
Spot Price (\$MW/h)	6482	2391	157
4:30 PM	Actual	4 hr forecast	12 hr forecast
4:30 PM Demand (MW)	Actual 9330	4 hr forecast 9018	12 hr forecast 8733

Around 60 MW of non-scheduled generation was not included in this demand figure. Actual non-scheduled generation was close to that forecast.

The maximum temperature in Melbourne exceeded 35°C, driving a maximum demand for the day of 9506 MW<sup>5</sup> at 4 pm. Conditions at the time saw demand around 450 MW greater than forecast four hours ahead and around 730 MW greater than forecast 12 hours ahead. Available capacity was up to 650 MW lower than forecast four hours ahead. Significant changes in available capacity and demand compared to forecast contributed to higher actual prices than forecast.

### Tuesday 9 February

### **South Australia**

Figure 3: Actual and forecast demand and spot price in South Australia on Tuesday 9 February

1:30 PM	Actual	4 hr forecast	12 hr forecast
Demand(MW)	2990	3013	2836
Spot Price (\$MW/h)	6833	9494	1000
2 PM	Actual	4 hr forecast	12 hr forecast
Demand(MW)	3020	3167	2875
Spot Price (\$MW/h)	10 000	10 000	9000
2:30 PM	Actual	4 hr forecast	12 hr forecast
Demand(MW)	3025	3148	2868
Spot Price (\$MW/h)	10 000	9990	9494
3 PM	Actual	4 hr forecast	12 hr forecast
Demand(MW)	3037	3139	2872
Spot Price (\$MW/h)	8431	9800	9800
3:30 PM	Actual	4 hr forecast	12 hr forecast
Demand(MW)	3072	3125	2891
Spot Price (\$MW/h)	10 000	586	9990
4 PM	Actual	4 hr forecast	12 hr forecast
Demand(MW)	3111	3093	2933
Spot Price (\$MW/h)	10 000	590	10 000
4:30 PM	Actual	4 hr forecast	12 hr forecast
Demand(MW)	3109	3082	2956
Spot Price (\$MW/h)	10 000	586	10 000
5 PM	Actual	4 hr forecast	12 hr forecast
Demand(MW)	3070	2990	2956
Spot Price (\$MW/h)	9706	39	9800
5:30 PM	Actual	4 hr forecast	12 hr forecast
Demand(MW)	3070	2990	2956
Spot Price (\$MW/h)	9706	40	9800
77 140 7777 0 1 1 1 1 1			

Up to 140 MW of non-scheduled generation was not included in this demand figure. Actual non-scheduled generation was close to that forecast.

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<sup>&</sup>lt;sup>5</sup> The record demand in Victoria is 10 445 MW.

On Tuesday 9 February, high temperatures continued in Adelaide, reaching a maximum of 39°C. The spot prices were close to or lower than forecast four hours ahead for the 1.30 pm to 3 pm trading intervals, inclusive. From 3.30 pm, demand was close to forecast four hours ahead and up to 178 MW greater than forecast 12 hours ahead.

The majority of the high prices in South Australia were forecast 12 hours ahead of dispatch. However increased available capacity at low prices and rebidding of capacity into lower prices saw the forecast price revised down 4 hours prior to dispatch for the 3.30 pm to 5.30 pm trading intervals. Further rebids (shifting capacity into higher price bands and reducing low-priced available capacity) combined with lower than forecast imports saw increases in the actual spot prices compared to forecast.

#### Victoria

Figure 4: Actual and forecast demand and spot price in Victoria on Tuesday 9 February

4 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	9304	9191	9086
Spot Price (\$MW/h)	6247	46	9331
4:30 PM	Actual	4 hr forecast	12 hr forecast
4:30 PM Demand (MW)	Actual 9318	4 hr forecast 9122	12 hr forecast 9050

The temperature in Melbourne reached a maximum for the day of 32.1°C. Conditions at the time saw demand up to 200 MW greater that forecast four hours ahead and 270 MW greater than forecast 12 hours ahead. Available capacity was up to 300 MW below that forecast four hours ahead. Again spot prices were similar to that forecast 12 hours ahead and were significantly higher that that forecast four hours ahead. The decrease in forecast price between the four and 12 hours ahead forecast was a result of an increase of available low-priced capacity (that wasn't originally available) and rebids to shift high price capacity into lower price bands. The higher than forecast demand, combined with rebidding of capacity into higher price bands saw actual prices significantly higher than forecast four hour ahead.

### Wednesday 10 February

#### **South Australia**

Figure 5: Actual and forecast demand and spot price in South Australia on Wednesday 10 February

2:30 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	2918	2889	2983
Spot Price (\$MW/h)	8824	1500	10 000
3 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	2883	2879	2964
Spot Price (\$MW/h)	6787	1500	10 000

Around 150 MW of non-scheduled generation that is not included in this demand figure. Actual non-scheduled generation was close to that forecast.

Demand was close to forecast four hours ahead. Actual prices were significantly higher than forecast 4 hours ahead but lower than forecast 12 hours ahead. The fluctuation between the actual price and what was forecast 4 and 12 hours ahead was due to a combination of network constraints and resultant rebidding.

### **Generator offers**

#### South Australia

On 8 February, up to 3050 MW of capacity was offered through initial offers (day ahead). Around 1970 MW of this capacity was priced below \$500/MWh, with around 244 MW priced between \$500/MWh and \$1500/MWh and the remainder (around 836 MW) priced above \$8900/MWh. Around 500 MW (60 per cent) of the capacity priced above \$8900/MWh was offered by AGL. The remaining capacity priced above \$8900/MWh was offered by TRUenergy at Hallet (50 MW), by International Power across its Snuggery, Dry Creek and Port Lincoln units (161 MW), by Flinders Power at Osborne Power station (36 MW) and by Origin Energy at Quarantine (80 MW). All of this high-priced capacity (excluding AGL) was rebid into lower price bands or withdrawn from the market during the day.

On 9 February up to 3050 MW of capacity was offered through initial offers (day ahead). Around 1910 MW of this capacity was priced below \$500/MWh, with around 244 MW priced between \$500/MWh and \$1500/MWh and the remainder (around 896 MW) priced above \$8900/MWh. Around 500 MW (56 per cent) of the capacity priced above \$8900/MWh was offered by AGL. The remaining capacity priced above \$8900/MWh was offered by TRUenergy at Hallet (50 MW), by International Power across its Snuggery, Dry Creek and Port Lincoln units (161 MW), by Flinders Power at Osborne Power station (36 MW) and by Origin Energy across Quarantine and Ladbroke (100 MW). All of this high-priced capacity (excluding AGL) was rebid into lower price bands or withdrawn from the market during the day.

On 10 February, up to 3171 MW of available capacity was offered through initial offers (day ahead). Around 2455 MW of this capacity was priced below \$500/MWh, with around 244 MW priced between \$500/MWh and \$1500/MWh and the remainder (around 472 MW) priced above \$8900/MWh. Around 80 MW of the capacity priced above \$8900/MWh was offered by AGL. However over two rebids at around 5.40 am on 9 February, effective for 2.30 pm to 5.30 pm trading intervals on 10 February, AGL rebid a further 240 MW of capacity from prices below \$50/MWh to the price cap. As a result around 320 MW (or half) of the capacity priced above \$8900/MWh was offered by AGL. The remaining capacity priced above \$8900/MWh was offered by TRUenergy at Hallet (50 MW), by International Power across its Snuggery, Dry Creek and Port Lincoln units (161 MW), by Flinders Power at Osborne Power station (35 MW) and by Origin Energy across Quarantine and Ladbroke (160 MW). All of this high-priced capacity (excluding AGL) was rebid into lower price bands or withdrawn from the market during the day.

#### Victoria

**On 8 February**, up to 10 050 MW of capacity was offered through initial offers (day ahead). Around 8350 MW of this capacity was priced below \$115/MWh, with around 10 MW priced at around \$1500/MWh and the remaining 1690 MW priced above \$7900/MWh. Ecogen Energy offered all of its 472 MW of capacity at prices above \$9000/MWh.

**On 9 February**, up to 9940 MW of available capacity was offered through initial offers (day ahead bidding). Around 8335 MW of this capacity was priced below \$282/MWh and the remaining 1605 MW was priced above \$7900/MWh. Ecogen Energy offered all of its 472 MW of capacity at prices above \$9000/MWh, whilst LYMMCO had 420 MW out of its 2255 MW of available capacity offered above \$9000/MWh.

### Low cost generation capacity not available

Figure 7 shows the lower-cost generation not available in South Australia and Victoria on 8, 9 and 10 February.

#### **South Australia**

AGL's Torrens Island Power Station (TIPS) units A1, A3 and B2 were not in service for all three days, but were available with 24 hours notice. All of these units had generated in the previous weeks. Torrens Island unit A2 which had been out of service since 11 January 2010, returned to service on 9 February at 10 am.

#### Victoria

There were reductions in available capacity of 510 MW as a result of technical issues on 8 February. On 9 and 10 February, 200 MW of lower cost Victorian generation was unavailable as a result of technical issues.

Figure 7: Victoria and South Australia lower cost generation capacity not offered

Participant		Date		Comment
AGL	8 February (MW)	9 February (MW)	10 February (MW)	
Torrens Island unit A1	120	120	120	Off since 25 January
Torrens Island unit A2	120	-	-	Off since 11 January
Torrens Island unit A3	120	120	120	Off since 18 January
Torrens Island unit B2	200	200	200	Off since 4 February
Aurora Energy				
Bairnsdale unit two	37	-	-	Plant problems – taken offline on 8 February
EcoGen Energy				
Newport Power Station	475	-	-	Plant problems – taken offline on 8 February
Hazelwood Power				•
Hazelwood unit four	-	200	200	Plant problems – taken offline on 9 February
Total	1072	640	640	

The generation figures are the unit's summer rating capability and may differ to the actual capability of the unit on the high-priced days.

### Rebidding

### Monday 8 February

#### **South Australia**

There was no significant rebidding in South Australia on 8 February.

#### Victoria

High ambient temperatures led to significant reductions in available capacity during the day.

At around 10.50 am, AETV Power's Bairnsdale unit two tripped (from 44 MW). The reason provided was "1045 P unit OOS et 7 hrs – SL". The unit was out of service from 10 am and returned to service from 5.30 pm the same day.

Ecogen Energy reduced the available capacity at Newport power station, Jeeralang Units A and B by a total of 583 MW. These reductions were effective for varying periods, with some effective from 1.30 pm, lasting until 4 pm. The most significant reduction was for the entire 510 MW at Newport power station, with 200 MW of this capacity priced below \$25/MWh. The reasons given were "13:18a band adj due to material change in demand", "Capacity adj due to ambient temperature @ 13:29" and "Adj to unit commitment due to plant limitations @ 12:59".

There were smaller reductions (a total of around 75 MW), all related to high ambient temperatures, by International Power at Loy Yang B, Snowy Hydro at the Laverton North and Valley Power Stations and TRUenergy at the Yallourn Power Station. The majority of this capacity was priced at \$0/MWh.

At 2.56 pm, Snowy Hydro rebid Murray Power Station's ramp down rate from 200MW/min down to the minimum allowable level of 3MW/min<sup>6</sup>. The reason given was "14:32:A being constrained off at Murray in 5mpd 15:00@14:30". At this time, the system normal constraint<sup>7</sup>, V>>V\_NIL\_1B, which limits generation from the Murray Power station, was binding.

At 3.09 pm, effective from 3.20 pm, International Power rebid 30 MW of capacity at Hazelwood Power Station from negative price bands to above \$9600/MWh. The reason given was "1508P update avail – revised mingens from unit controllers".

At 3.39 pm, effective from 3.50 pm, LYMMCO rebid 112 MW of capacity at Loy Yang A from prices below \$20/MWh to above \$9000/MWh. The reason given was "1539A material variation between actual & fcast demand – SL".

### Tuesday 9 February

#### **South Australia**

In South Australia, over several rebids first effective from 1.15 pm, AGL rebid up to 80 MW at Torrens Island from prices below \$35/MWh to the price cap. The reason given was "12:31A chg in AEMO forecasts:: SA decr price \$3K+".

#### Victoria

At 5.35 am, Ecogen increased the available capacity at Newport power station by 510 MW, 250 MW of which was priced below \$25/MWh. The capacity was available from 12.30 pm to 5 pm. The reason given was "0534A Band Adj due to PD condition".

At around 9.16 am, effective from around 2 pm, AGL Hydro rebid 306 MW of capacity across the AGL Somerton unit, Mckay unit one and West Kiewa units one and two, from prices above \$7900/MWh to below zero. The reason given was "19:31A Chg in AEMO forecasts:: VIC incr demand 500+ MW".

The rebids by Ecogen and AGL Hydro saw a significant decrease in the forecast spot price for Victoria in the late afternoon, (the 12 hour ahead forecast prices were around \$9400/MWh compared to the four hours ahead forecast of less than \$50/MWh).

Over several rebids International Power reduced the available capacity of Hazelwood Power Station unit 4 by up to 215 MW. These rebids were first effective from 9.45 am. The reasons given were "0937F boiler leak", "1150P Boiler leak", "1229P Boiler leak", "1245P Boiler leak", "1319P Boiler Leak", "1343P unit outage – tube leak". This capacity was priced at prices below \$15/MWh.

Over three rebids from 10.42 am, first effective from 10.50 am, LYMMCO reduced the available capacity at Loy Yang A by up to 60 MW. The reasons given were "1043P Draft plant limits", "1210P Coal quality issues" and "1301A change in demand f/c at pd 1301 and 1331 - SL". This capacity was priced below \$60/MWh. Over two rebids from around 1.55 pm, first effective from 2.05 pm, LYMMCO shifted a further 390 MW at Loy Yang A from prices below \$60/MWh to above \$9600/MWh. The reason given was "1301A change in demand f/c at pd 1301 and 1331 - SL".

Over a number of rebids from 11.28 am, first effective from 11.35 am, TRUenergy reduced the available capacity at the Yallourn Power Station by up to 65 MW. The reasons given were "11:27P adj avail due to vacuum limit set unknown", "13:38P capacity adj due to

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<sup>&</sup>lt;sup>6</sup> Clause 3.8.3A(b) of the Electricity Rules states that Scheduled Generators must provide a ramp down rate to AEMO of at least the lower of 3 MW per minute or 3 per cent of the full capacity of the Scheduled unit. Refer to the AER Rebidding and Technical Parameter Guideline for more information at www.aer.gov.au.

<sup>&</sup>lt;sup>7</sup> Constraint equations are mathematical expressions used in the dispatch engine to describe the physical limitations of the power system. System normal constraints are used when the network is operating in its normal network configuration.

vacuum limit" and "13:09 Avail adj due to plant condition". This capacity was priced below \$5/MWh.

At 2.16 pm, effective from 2.25 pm, Snowy Hydro rebid Murray Power Station's ramp down rate from 200MW/min down to the minimum allowable level of 3MW/min. The reason given was "14:16:A being constrained off at Murray". At this time, the system normal constraint, V>>V\_NIL\_1B was binding.

There was no other significant rebidding.

### Wednesday 10 February

#### **South Australia**

From 1.30 pm, TRUenergy's Hallett Power Station was dispatched to its maximum. On the day, TRUenergy used its newly installed "fogging system" which allows the station to generate up to 20 MW more than its normal summer capability during hot weather. The remote controls associated with the fogging system, however, were not yet commissioned requiring the fogging system to be operated manually. As a result, Hallet Power Station could not be reduced from full load quickly if required with fogging in operation.

At 2.50 pm a network constraint required the output from the station to reduce by 50 MW. With the fogging system in service on all 11 Gas Turbines, TRUenergy rebid capacity into negative price bands with a ramp down rate of 3 MW/min to try to avoid the reduction in output. The reason given was "Plant conditions". After a 20 minute lag, during which the fogging systems were manually shut down, the units were able to be reduced and follow dispatch targets. TRUenergy has since commissioned the remote control facilities for the fogging system and adopted a new bidding strategy during times when the fogging system is in service to ensure closer compliance with dispatch instructions.

There was no other significant rebidding.

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 B**.

The closing bids for all participants in South Australia and Victoria with capacity priced at or above \$5000/MWh are presented in **Appendix C**.

### Changes to network availability

### Monday 8 February

Twelve hours prior to the high prices, import limits into South Australia across the Heywood interconnector were forecast at a minimum of 350 MW<sup>8</sup>. This was revised up to around 450 MW 4 hours prior to dispatch. However, during the time of high prices, actual imports into South Australia were between 300 MW and 350 MW.

Twelve hours prior to the high prices the import limit into South Australia across the Murraylink interconnector was forecast to be 150 MW<sup>9</sup>. This was revised down to around 80 MW 4 hours prior to dispatch. The actual import capability into South Australia during this time was limited to below 50 MW due to the system normal constraint V>>V\_NIL\_1B. The constraint is designed to avoid overloading the Dedarang to Murray No.2 330 kV line in the event of the loss of the No.1 line. In doing so, it limits flows across both Murraylink and the New South Wales to Victoria interconnectors and constrains the output of several generators in Victoria and New South Wales.

<sup>&</sup>lt;sup>8</sup> The nominal limit across Heywood into South Australia is 460 MW.

<sup>&</sup>lt;sup>9</sup> The nominal limit across Murraylink into South Australia is 220 MW.

The import limit into Victoria across the NSW-Vic interconnector was forecast to be between 440 MW and 540 MW for the afternoon. However, the V>>V\_NIL\_1B constraint limited actual imports into Victoria to around 200 MW.

Output from Murray Power Station was up to 500 MW higher than had been forecast, both 4 and 12 hours prior to dispatch, as a result of rebidding into lower price bands. This additional output had the effect of further limiting imports from New South Wales into Victoria.

Actual flows into Victoria across the Basslink were close to forecast throughout the afternoon at 500 MW.

### Tuesday 9 February

Twelve hours prior to dispatch the import limit into South Australia across the Heywood interconnector was forecast to be between 350 MW and 380 MW. This was revised to 425 MW four hours prior to dispatch. Actual imports were limited to under 350 MW during the period of high prices, with the import limit falling to approximately 180 MW at 4.30 pm.

During the high-priced period two constraints limited flows across the Heywood interconnector. The system normal constraint, V^^S\_NIL\_NPS\_SE\_OFF (which limits flows on the Heywood interconnector to prevent its overload should there be a loss of one unit at Northern Power Station) was binding for most of the period.

The constraint V>>SML\_DDGN violated at 4.15 pm, and continued to bind through the remainder of the high-priced period. This constraint is designed to limit output from a number of Victorian generators and the Heywood, Murraylink and Vic-Snowy interconnectors to avoid overloading the Dederang to Shepparton 220 kV line in the event of the loss of the Dederang to Glenrowan No.3 or No.1 220kV line. This constraint was invoked at 4.10 pm in response to the reclassification of a non-credible contingency event on the Dederang to Glenrowan lines as a result of lightning in the vicinity.

Twelve hours prior to dispatch, the import limit across Murraylink into South Australia was forecast to be between 50 MW and 150 MW during the period of high prices. Four hours prior to dispatch this was forecast to be around 150 MW. However, actual import capability into South Australia between 1.30 pm and 4 pm was between 40 MW and 62 MW. After 4 pm, flows reversed across Murraylink, following the reclassification on the Dederang to Glenrowan 220 kV line. Flows of approximately 50 MW continued counter-price into Victoria over the remainder of the high-priced period.

From 2.10 pm until 3.30 pm, a system normal constraint restricted flows into Victoria from New South Wales across the Vic-NSW interconnector<sup>10</sup>. Output from Murray Power Station was up to 200 MW higher than forecast as a result of rebidding into negative price bands. This had the effect of further limiting imports from New South Wales into Victoria.

In addition, a quick (CA or Contingency Analysis<sup>11</sup>) constraint was invoked from 3.30 pm to 7.40 pm placed further restrictions on imports into Victoria across the Murraylink and Vic-NSW interconnectors. This constraint was invoked to avoid flows on one of the Murray to Dederang 330 kV transmission lines overloading the parallel 330 kV line.

From 4.50 pm, the constraint set #VIC1-NSW1\_E was invoked to minimise the negative settlement residues that had begun to accrue. The constraint set #VIC1-NSW1\_E limited flows into New South Wales to below 250 MW. The constraint set was revised several times throughout the afternoon, with new limits of between 150 MW and 250 MW implemented during the high price period. These constraints which were aimed at limiting counter-price flows into New South Wales, in turn contributed to counter-price flows over the Murraylink

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<sup>&</sup>lt;sup>10</sup> The nominal limit into Victoria across the Vic-NSW interconnector is 1600 MW.

<sup>&</sup>lt;sup>11</sup> Contingency analysis constraints are invoked as a result of real-time analysis by AEMO that indicates system security issues, which are not being adequately managed by the existing constraints.

interconnector into Victoria until 5.20 pm. The Murraylink counter-price flows reached up to 110 MW at 4.20 pm.

### Wednesday 10 February

The import limit across the Heywood interconnector 4 and 12 hours prior to dispatch was forecast to be between 370 MW and 420 MW. Between 2.30 pm and 3.30 pm, actual imports were limited to between 130 MW and 280 MW. The system normal constraint, V^^S\_NIL\_NPS\_SE\_OFF, bound for three dispatch intervals during the high price period. In addition, the constraint V>>SML\_DDGN was invoked at 1.55 pm due to the reclassification of a non-credible contingency event on the Dederang to Glenrowan lines as a result of lightning in the vicinity. Both of these constraints limit flows into South Australia across the Heywood interconnector.

The import limit into South Australia across the Murraylink interconnector was forecast to be approximately 50 MW 12 hours ahead and 100 MW 4 hours ahead. However, actual limits during the high price period forced flows counter-price by up to 70 MW. The V>>SML\_DDGN constraint was responsible for the counter-price flows into Victoria. An additional system normal constraint, S>V\_NIL\_NIL\_RBNW, was binding during the times of maximum counter-price flows. This constraint is designed to avoid overloading the North West Bend to Robertstown 132 kV line, by reducing flows into South Australia across Murraylink.

At 2.50 pm, AEMO reclassified the loss of the Para to Robertstown and Robertstown to Tungkillo 275 kV lines as a credible contingency event due to a lightning storm in the vicinity. This constrained-off<sup>12</sup> a number of generators in northern South Australia (including Playford, Angaston, Mintaro, Northern and several wind farms). The constraint led to the Port Lincoln power station being targeted below its technical minimum generation level. As a result the unit was bid with a 0 MW/min ramp<sup>13</sup> down rate from 3.10 pm. The reason given was "1500A adjust ramp rate to 0MW- dispatch below MinGen - SL". Dispatch target for this station returned to above its minimum level at 4.05 pm.

### **Australian Energy Regulator**

**April 2010** 

<sup>&</sup>lt;sup>12</sup> Network constraints can cause generators to be dispatched at a price that is lower than its offer price (constrained-on) or generators to not be dispatched even though its offer price is lower than the regional price (constrained-off).

<sup>&</sup>lt;sup>13</sup> On this occasion it was permissible to rebid below at least the lower of 3 MW per minute or 3 per cent of the full capacity of the Scheduled unit as there was a technical reason for the unit not being able to safely achieve its minimum ramp rate. This is in line with the AER's Rebidding and Technical Parameter Guideline.

Appendix A - Prices from Weekly report 7 – 13 February

# Actual and forecast demand and spot price in Victoria on Monday 8 February

3 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	9258	8873	8613
Spot Price (\$MW/h)	1799.71	457.13	114.40
4 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	9506	9055	8772
Spot Price (\$MW/h)	6481.89	2390.54	157.22
4.30 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	9330	9018	8733
Spot Price (\$MW/h)	6368.41	1574.31	130.21

# Actual and forecast demand and spot price in Victoria on Tuesday 9 February

2.30 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	9307	9109	8935
Spot Price (\$MW/h)	1628.19	294.95	7828.22
3 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	9255	9133	9009
Spot Price (\$MW/h)	1668.65	287.72	8988.70
3.30 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	9383	9188	9053
Spot Price (\$MW/h)	1650.10	130.06	9243.43
4 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	9304	9191	9086
Spot Price (\$MW/h)	6246.55	45.61	9331.12
4.30 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	9318	9122	9050
Spot Price (\$MW/h)	7847.30	41.75	9366.27
E DM	A ofuel	4 hr forecast	12 hr forecast
5 PM	Actual	4 III IUIECasi	12 III IUIECast
Demand (MW)	9193	8978	8961

## Actual and forecast demand and spot price in Victoria on Wednesday 10 February

2.30 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	8705	9269	9252
Spot Price (\$MW/h)	1489.18	524.67	9378.21
3 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	8658	9306	9303
Spot Price (\$MW/h)	1256.00	439.93	9551.43

# Actual and forecast demand and spot price in South Australia on Monday 8 February

3 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	2884	2830	2665
Spot Price (\$MW/h)	2083.51	1500.10	1500.10
4 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	2962	2878	2703
Spot Price (\$MW/h)	8430.79	3829.91	1500.10
4.30 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	2980	2900	2722
Spot Price (\$MW/h)	6719.05	2531.40	1500.10

# Actual and forecast demand and spot price in South Australia on Tuesday 9 February

1.30 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	2990	3013	2836
Spot Price (\$MW/h)	6833.20	9494.30	1000.00
2 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	3020	3167	2875
Spot Price (\$MW/h)	9999.76	9999.60	9000.20
2.30 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	3025	3148	2868
Spot Price (\$MW/h)	9999.77	9990.00	9494.30
3 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	3037	3139	2872
Spot Price (\$MW/h)	8430.74	9800.00	9800.00
3.30 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	3072	3125	2891
Spot Price (\$MW/h)	9999.77	585.60	9990.00
4 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	3111	3093	2933
Spot Price (\$MW/h)	9999.77	590.00	9999.60
4.30 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	3109	3082	2956
Spot Price (\$MW/h)	9999.92	585.60	9999.50
5 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	3070	2990	2956
Spot Price (\$MW/h)	9705.76	39.06	9800.00
5.30 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	3011	2943	2917
Spot Price (\$MW/h)	8764.23	40.34	9000.10

Actual and forecast demand and spot price in South Australia on Wednesday 10 February

2.30 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	2918	2889	2983
Spot Price (\$MW/h)	8823.77	1500.10	9999.77
3 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	2883	2879	2964
Spot Price (\$MW/h)	6786.97	1500.10	9999.77
3.30 PM	Actual	4 hr forecast	12 hr forecast
Demand (MW)	2918	2885	2970
Spot Price (\$MW/h)	4262.96	1500.10	9999.77

### **Appendix B – Price setters for 8-10 February 2010**

The following tables identify for the each trading interval exceeding \$5000/MWh, the five minute dispatch interval price and the generating units involved in setting the energy price. This information is published by AEMO<sup>14</sup>. Also shown is the energy 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 average of the six dispatch interval prices.

South Australia – Monday 8 February, 4 pm

Time	Dispatch price	Participant	Unit	Service	Offer price	Marginal change	Contribution
15:35	\$9999.77	AGL (SA)	TORRA4	Energy	\$9999.77	0.22	\$2222.15
15.55	φ9999.77	AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2592.54
		AGL (SA)	TORRB3		\$9999.77	0.26	\$2592.54
		\ /	TORRB4	Energy	\$9999.77	0.26	\$2592.54
45.40	Ф <b>Г</b> ОГ ГО	AGL (SA)		Energy	*		*
15:40	\$585.50	Synergen Power	SNUG1	Energy	\$585.50	1.00	\$585.50
15:45	\$9999.77	AGL (SA)	TORRA4	Energy	\$9999.77	0.22	\$2222.15
		AGL (SA)	TORRB1	Energy	\$9999.77	0.26	\$2592.54
		AGL (SA)	TORRB3	Energy	\$9999.77	0.26	\$2592.54
		AGL (SA)	TORRB4	Energy	\$9999.77	0.26	\$2592.54
15:50	\$9999.77	AGL (SA)	TORRA4	Energy	\$9999.77	0.22	\$2222.15
		AGL (SA)	TORRB1	Energy	\$9999.77	0.26	\$2592.54
		AGL (SA)	TORRB3	Energy	\$9999.77	0.26	\$2592.54
		AGL (SA)	TORRB4	Energy	\$9999.77	0.26	\$2592.54
15:55	\$9999.98	Infratil Energy	ANGAS1	Energy	\$9999.98	0.60	\$5999.99
		Infratil Energy	ANGAS2	Energy	\$9999.98	0.40	\$3999.99
16:00	\$9999.93	Vic Power Trader	PTH01	Raise 6 sec	\$0.12	2.00	\$0.24
		AGL (SA)	TORRB3	Energy	\$9999.77	1.00	\$9999.77
		AGL (SA)	TORRB3	Raise 6 sec	\$0.04	-2.00	-\$0.08
Spot p	rice	\$8431/MWh					

South Australia – Monday 8 February, 4.30 pm

T:	Dispatch	Dantialmant	I I mile	Camilaa	Offer	Marginal	Contribution
Time	price	Participant	Unit	Service	price	change	Contribution
16:05	\$9999.98	Infratil Energy	ANGAS1	Energy	\$9999.98	0.60	\$5999.99
		Infratil Energy	ANGAS2	Energy	\$9999.98	0.40	\$3999.99
16:10	\$9999.77	AGL (SA)	TORRA4	Energy	\$9999.77	1.00	\$9999.77
16:15	\$9999.77	AGL (SA)	TORRA4	Energy	\$9999.77	0.22	\$2222.15
		AGL (SA)	TORRB1	Energy	\$9999.77	0.26	\$2592.54
		AGL (SA)	TORRB3	Energy	\$9999.77	0.26	\$2592.54
		AGL (SA)	TORRB4	Energy	\$9999.77	0.26	\$2592.54
16:20	\$9999.47	CS Energy	CALL_B_2	Lower reg	\$0.55	-1.00	-\$0.55
		AGL (SA)	TORRB3	Energy	\$9999.77	0.50	\$4999.89
		AGL (SA)	TORRB3	Lower reg	\$0.25	0.50	\$0.13
		AGL (SA)	TORRB4	Energy	\$9999.77	0.50	\$4999.89
		AGL (SA)	TORRB4	Lower reg	\$0.25	0.50	\$0.13
16:25	\$275.01	International Power	LOYYB2	Energy	\$256.99	1.07	\$275.01
16:30	\$40.33	Eraring Energy	ER01	Energy	\$29.95	0.09	\$2.77
		Eraring Energy	ER02	Energy	\$29.95	0.09	\$2.77
		Eraring Energy	ER03	Energy	\$29.95	0.09	\$2.77
		Eraring Energy	ER04	Energy	\$29.95	0.09	\$2.77
		Hydro Tasmania	JBUTTERS	Energy	\$32.34	0.90	\$29.23
Spot p	orice	\$6719/MWh					

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Details on how the price is determined can be found at <a href="www.aemo.com.au">www.aemo.com.au</a>

Victoria – Monday 8 February, 4 pm

	Dispatch	•			•	Marginal	•
Time	price	Participant	Unit	Service	Offer price	change	Contribution
15:35	\$191.88	AGL Hydro	EILDON2	Energy	\$165.00	1.20	\$198.25
		Eraring Energy	ER01	Energy	\$29.95	-0.05	-\$1.59
		Eraring Energy	ER02	Energy	\$29.95	-0.05	-\$1.59
		Eraring Energy	ER03	Energy	\$29.95	-0.05	-\$1.59
		Eraring Energy	ER04	Energy	\$29.95	-0.05	-\$1.59
15:40	\$538.25	Synergen Power	SNUG1	Energy	\$585.50	0.92	\$538.25
15:45	\$9,312.86	AGL (SA)	TORRA4	Energy	\$9,999.77	0.21	\$2,069.55
		AGL (SA)	TORRB1	Energy	\$9,999.77	0.24	\$2,414.44
		AGL (SA)	TORRB3	Energy	\$9,999.77	0.24	\$2,414.44
		AGL (SA)	TORRB4	Energy	\$9,999.77	0.24	\$2,414.44
15:50	\$9,500.61	Ecogen Energy	JLA01	Energy	\$9,500.61	1.00	\$9,500.61
15:55	\$9,697.02	Infratil Energy	ANGAS1	Energy	\$9,999.98	0.58	\$5,818.19
		Infratil Energy	ANGAS2	Energy	\$9,999.98	0.39	\$3,878.79
16:00	\$9,650.73	Vic Power Trader	PTH01	Raise 6 sec	\$0.12	1.93	\$0.23
		AGL (SA)	TORRB3	Energy	\$9,999.77	0.97	\$9,650.58
		AGL (SA)	TORRB3	Raise 6 sec	\$0.04	-1.93	-\$0.08
Spot pr	ice	\$6482/MWh					

Victoria - Monday 8 February, 4.30 pm

	Dispatch	aj o i obidalj, i				Marginal	
Time	price	Participant	Unit	Service	Offer price	change	Contribution
16:05	\$9,688.39	Infratil Energy	ANGAS1	Energy	\$9,999.98	0.58	\$5,812.99
		Infratil Energy	ANGAS2	Energy	\$9,999.98	0.39	\$3,875.39
16:10	\$9,500.61	Ecogen Energy	JLA01	Energy	\$9,500.61	1.00	\$9,500.61
16:15	\$9,425.82	AGL (SA)	TORRA4	Energy	\$9,999.77	0.21	\$2,094.65
		AGL (SA)	TORRB1	Energy	\$9,999.77	0.24	\$2,443.74
		AGL (SA)	TORRB3	Energy	\$9,999.77	0.24	\$2,443.74
		AGL (SA)	TORRB4	Energy	\$9,999.77	0.24	\$2,443.74
16:20	\$9,302.95	CS Energy	CALL_B_2	Lower reg	\$0.55	-0.93	-\$0.51
		AGL (SA)	TORRB3	Energy	\$9,999.77	0.47	\$4,651.59
		AGL (SA)	TORRB3	Lower reg	\$0.25	0.47	\$0.12
		AGL (SA)	TORRB4	Energy	\$9,999.77	0.47	\$4,651.59
		AGL (SA)	TORRB4	Lower reg	\$0.25	0.47	\$0.12
16:25	\$256.99	International Power	LOYYB2	Energy	\$256.99	1.00	\$256.99
16:30	\$35.71	Hydro Tasmania	JBUTTERS	Energy	\$32.34	1.10	\$35.70
Spot pr	ice	\$6368/MWh				•	

South Australia – Tuesday 9 February, 1.30 pm

	Dispatch		• • • • • • • • • • • • • • • • • • • •			Marginal	
Time	price	Participant	Unit	Service	Offer price	change	Contribution
13:05	\$500.40	Synergen Power	DRYCGT2	Energy	\$500.40	1.00	\$500.40
13:10	\$500.40	Synergen Power	DRYCGT2	Energy	\$500.40	1.00	\$500.40
				Lower 5			
13:15	\$9999.12	Hydro Tasmania	CETHANA	min	\$0.45	1.00	\$0.45
		Hydro Tasmania	JBUTTERS	Lower reg	\$1.30	-1.00	-\$1.30
		AGL (SA)	TORRB1	Energy	\$9999.77	0.33	\$3333.22
		AGL (SA)	TORRB1	Lower reg	\$0.25	0.33	\$0.08
		AGL (SA)	TORRB3	Energy	\$9999.77	0.33	\$3333.22
		AGL (SA)	TORRB3	Lower reg	\$0.25	0.33	\$0.08
		AGL (SA)	TORRB4	Energy	\$9999.77	0.33	\$3333.22
		AGL (SA)	TORRB4	Lower reg	\$0.25	0.33	\$0.08
				Lower 5			
		TRUenergy (Vic)	YWPS1	min	\$0.05	-1.00	-\$0.05
13:20	\$9999.77	AGL (SA)	TORRA4	Energy	\$9999.77	0.21	\$2058.75
		AGL (SA)	TORRB1	Energy	\$9999.77	0.26	\$2647.04
		AGL (SA)	TORRB3	Energy	\$9999.77	0.26	\$2647.04
		AGL (SA)	TORRB4	Energy	\$9999.77	0.26	\$2647.04
				Lower 5			
13:25	\$9999.71	Hydro Tasmania	CETHANA	min	\$0.45	1.00	\$0.45
		Hydro Tasmania	CETHANA	Lower reg	\$1.30	-1.00	-\$1.30
			0	Lower 5			
		CS Energy	SWAN_B_4	min –	\$0.01	-1.00	-\$0.01
		AGL (SA)	TORRB1	Energy	\$9999.77	0.33	\$3333.22
		AGL (SA)	TORRB1	Lower reg	\$0.80	0.33	\$0.27
		AGL (SA)	TORRB3	Energy	\$9999.77	0.33	\$3333.22
		AGL (SA)	TORRB3	Lower reg	\$0.80	0.33	\$0.27
		AGL (SA)	TORRB4	Energy	\$9999.77	0.33	\$3333.22
		AGL (SA)	TORRB4	Lower reg	\$0.80	0.33	\$0.27
13:30	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Lower reg	\$0.80	0.22	\$0.18
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Lower reg	\$0.80	-0.22	-\$0.18
Spot pr	ice	\$6833/MWh	_				

South Australia – Tuesday 9 February, 2 pm

Time	Dispatch price	Participant	Unit	Service	Offer price	Marginal change	Contribution
13:35	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.50	\$4999.89
13.33	φ9999.11	AGL (SA)	TORRA4	Energy	\$9999.77	0.50	\$4999.89
13:40	\$9999.71	Hydro Tasmania	CETHANA	Lower reg	\$1.30	-1.00	-\$1.30
13.40	φ9999.7 1	riyulo rasillallia	CETTANA	Lower 5	φ1.50	-1.00	-\$1.5C
		Hydro Tasmania	DEVILS_G	min	\$0.45	1.00	\$0.45
		,		Lower 5	<del> </del>		<del></del>
		CS Energy	SWAN_B_4	min	\$0.01	-1.00	-\$0.01
		AGL (SA)	TORRB1	Energy	\$9999.77	0.33	\$3333.22
		AGL (SA)	TORRB1	Lower reg	\$0.80	0.33	\$0.27
		AGL (SA)	TORRB3	Energy	\$9999.77	0.33	\$3333.22
		AGL (SA)	TORRB3	Lower reg	\$0.80	0.33	\$0.27
		AGL (SA)	TORRB4	Energy	\$9999.77	0.33	\$3333.22
		AGL (SA)	TORRB4	Lower reg	\$0.80	0.33	\$0.27
13:45	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB1	Lower reg	\$0.80	0.22	\$0.18
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.0
		AGL (SA)	TORRB3	Lower reg	\$0.80	0.22	\$0.18
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Lower reg	\$0.80	-0.44	-\$0.3
13:50	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.50	\$4999.89
		AGL (SA)	TORRA4	Energy	\$9999.77	0.50	\$4999.89
13:55	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.50	\$4999.89
		AGL (SA)	TORRA4	Energy	\$9999.77	0.50	\$4999.89
14:00	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.50	\$4999.89
		AGL (SA)	TORRA4	Energy	\$9999.77	0.50	\$4999.89
Spot pr	ice	\$10000/MWh					

South Australia – Tuesday 9 February, 2.30 pm

Time	Dispatch price	Participant	Unit	Service	Offer price	Marginal change	Contribution
14:05	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
	700000	AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
14:10	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
14:15	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
14:20	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
14:25	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
14:30	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
Spot p	rice	\$10000/MWh					

South Australia – Tuesday 9 February, 3 pm

	Dispatch				Offer	Marginal	
Time	price	Participant	Unit	Service	price	change	Contribution
14:35	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
14:40	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB1	Lower reg	\$0.80	-0.22	-\$0.18
		AGL (SA)	TORRB1	Raise reg	\$0.80	-0.22	-\$0.18
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Lower reg	\$0.80	0.22	\$0.18
		AGL (SA)	TORRB3	Raise reg	\$0.80	0.22	\$0.18
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
14:45	\$585.60	Synergen Power	POR01	Energy	\$585.60	1.00	\$585.60
14:50	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
14:55	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
15:00	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
Spot pr	rice	\$8431/MWh			_	_	

South Australia – Tuesday 9 February, 3.30 pm

Time	Dispatch price	Participant	Unit	Service	Offer price	Marginal change	Contribution
15:05	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
	<del>+</del>	AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
15:10	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
15:15	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
15:20	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
15:25	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
15:30	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
Spot p	rice	\$10000/MWh					

South Australia – Tuesday 9 February, 4 pm

	Dispatch			_	Offer	Marginal	
Time	price	Participant	Unit	Service	price	change	Contribution
15:35	\$9999.77	AGL (SA)	TORRA4	Energy	\$9999.77	0.21	\$2058.75
		AGL (SA)	TORRB1	Energy	\$9999.77	0.26	\$2647.04
		AGL (SA)	TORRB3	Energy	\$9999.77	0.26	\$2647.04
		AGL (SA)	TORRB4	Energy	\$9999.77	0.26	\$2647.04
15:40	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
15:45	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
15:50	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.21	\$2058.75
		AGL (SA)	TORRB1	Energy	\$9999.77	0.26	\$2647.04
		AGL (SA)	TORRB3	Energy	\$9999.77	0.26	\$2647.04
		AGL (SA)	TORRB3	Lower reg	\$0.25	0.26	\$0.07
		AGL (SA)	TORRB4	Energy	\$9999.77	0.26	\$2647.04
		AGL (SA)	TORRB4	Lower reg	\$0.25	-0.26	-\$0.07
15:55	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
16:00	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
Spot pi		\$10000/MWh					

South Australia – Tuesday 9 February, 4.30 pm

	Dispatch	·	<u> </u>			Marginal	
Time	price	Participant	Unit	Service	Offer price	change	Contribution
16:05	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
16:10	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
16:15	\$14555.63	Ecogen Energy	JLA03	Energy	\$9999.93	1.46	\$14564.30
		Snowy Hydro	UPPTUMUT	Energy	\$22.97	-0.38	-\$8.62
16:20	\$67111.09	Snowy Hydro	MURRAY	Energy	-\$1000.00	-65.67	\$65669.98
		Snowy Hydro	UPPTUMUT	Energy	\$22.97	62.73	\$1440.92
16:25	\$14401.00	Ecogen Energy	JLB02	Energy	\$9999.82	1.44	\$14409.44
		Snowy Hydro	UPPTUMUT	Energy	\$22.97	-0.37	-\$8.44
16:30	\$14413.40	LYMMCO	LYA4	Energy	\$9999.40	1.44	\$14422.33
		Delta Electricity	MP2	Energy	\$24.50	-0.37	-\$8.96
Spot pr	rice	\$10000/MWh					

South Australia – Tuesday 9 February, 5 pm

Time	Dispatch price	Participant	Unit	Service	Offer price	Marginal change	Contribution
16:35	\$8235.73	Infratil Energy	ANGAS1	Energy	\$9999.98	0.50	\$5037.69
10.55	ψ0233.73	Infratil Energy	ANGAS2	Energy	\$9999.98	0.34	\$3358.49
		Synergen Power	MINTARO	Energy	-\$1000.00	0.16	-\$160.39
16:40	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.10	\$1707.26
10.40	ψ5555.11	AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.17	\$2195.05
		AGL (SA)	TORRB1	Lower reg	\$0.25	0.22	\$0.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Lower reg	\$0.25	0.22	\$0.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Lower reg	\$0.25	-0.44	-\$0.11
16:45	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
10.40	ψ5555.11	AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
16:50	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
10.00	φοσσοιτί	AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
16:55	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
. 0.00	ψοσσο	AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
17:00	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
	******	AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
Spot pri	ce	\$9706/MWh		- 37	******		, , , , , ,

South Australia – Tuesday 9 February, 5.30 pm

	Dispatch	·	<u> </u>	-		Marginal	
Time	price	Participant	Unit	Service	Offer price	change	Contribution
17:05	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
17:10	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
17:15	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
17:20	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
17:25	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRA4	Energy	\$9999.77	0.17	\$1707.26
		AGL (SA)	TORRB1	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB3	Energy	\$9999.77	0.22	\$2195.05
		AGL (SA)	TORRB4	Energy	\$9999.77	0.22	\$2195.05
17:30	\$2586.54	LYMMCO	LYA4	Energy	\$19.40	3.58	\$69.41
		AGL Hydro	WKIEWA1	Energy	-\$1000.00	-1.26	\$1258.56
		AGL Hydro	WKIEWA2	Energy	-\$1000.00	-1.26	\$1258.56
Spot p	rice	\$8764/MWh					

	Dispatch		_			Marginal	
Time	price	Participant	Unit	Service	Offer price	change	Contribution
15:35	\$9,372.88	AGL (SA)	TORRA4	Energy	\$9,999.77	0.19	\$1,929.76
		AGL (SA)	TORRB1	Energy	\$9,999.77	0.25	\$2,481.04
		AGL (SA)	TORRB3	Energy	\$9,999.77	0.25	\$2,481.04
		AGL (SA)	TORRB4	Energy	\$9,999.77	0.25	\$2,481.04
15:40	\$9,328.34	AGL (SA)	TORRA2	Energy	\$9,999.77	0.16	\$1,592.66
		AGL (SA)	TORRA4	Energy	\$9,999.77	0.16	\$1,592.66
		AGL (SA)	TORRB1	Energy	\$9,999.77	0.20	\$2,047.65
		AGL (SA)	TORRB3	Energy	\$9,999.77	0.20	\$2,047.65
		AGL (SA)	TORRB4	Energy	\$9,999.77	0.20	\$2,047.65
15:45	\$9,285.10	AGL (SA)	TORRA2	Energy	\$9,999.77	0.16	\$1,585.26
		AGL (SA)	TORRA4	Energy	\$9,999.77	0.16	\$1,585.26
		AGL (SA)	TORRB1	Energy	\$9,999.77	0.20	\$2,038.15
		AGL (SA)	TORRB3	Energy	\$9,999.77	0.20	\$2,038.15
		AGL (SA)	TORRB4	Energy	\$9,999.77	0.20	\$2,038.15
15:50	\$9,085.89	AGL (SA)	TORRA2	Energy	\$9,999.77	0.19	\$1,870.66
		AGL (SA)	TORRB1	Energy	\$9,999.77	0.24	\$2,405.04
		AGL (SA)	TORRB3	Energy	\$9,999.77	0.24	\$2,405.04
		AGL (SA)	TORRB3	Lower reg	\$0.25	0.24	\$0.06
		AGL (SA)	TORRB4	Energy	\$9,999.77	0.24	\$2,405.04
		AGL (SA)	TORRB4	Lower reg	\$0.25	-0.24	-\$0.06
15:55	\$150.12	Stanwell	STAN-4	Energy	\$29.30	-4.09	-\$119.70
		Origin Energy	URANQ14	Energy	\$54.52	4.95	\$269.82
16:00	\$256.99	International Power	LOYYB2	Energy	\$256.99	1.00	\$256.99
Spot price		\$6247/MWh		•		•	

Victoria – Tuesday 9 February, 4.30 pm

	Dispatch					Marginal	
Time	price	Participant	Unit	Service	Offer price	change	Contribution
16:05	\$256.89	International Power	LOYYB1	Energy	\$256.89	1.00	\$256.89
16:10	\$9,207.36	AGL (SA)	TORRA2	Energy	\$9,999.77	0.16	\$1,571.96
		AGL (SA)	TORRA4	Energy	\$9,999.77	0.16	\$1,571.96
		AGL (SA)	TORRB1	Energy	\$9,999.77	0.20	\$2,021.15
		AGL (SA)	TORRB3	Energy	\$9,999.77	0.20	\$2,021.15
		AGL (SA)	TORRB4	Energy	\$9,999.77	0.20	\$2,021.15
16:15	\$9,999.93	Ecogen Energy	JLA03	Energy	\$9,999.93	1.00	\$9,999.93
16:20	\$46,356.94	Snowy Hydro	MURRAY	Energy	-\$1,000.00	-45.36	\$45,355.82
		Snowy Hydro	UPPTUMUT	Energy	\$22.97	43.58	\$1,000.99
16:25	\$9,999.82	Ecogen Energy	JLB02	Energy	\$9,999.82	1.00	\$9,999.82
16:30	\$9,999.40	LYMMCO	LYA4	Energy	\$9,999.40	1.00	\$9,999.40
Spot p	rice	\$7847/MWh					

South Australia – Wednesday 10 February, 2.30 pm

	Dispatch		-			Marginal	
Time	price	Participant	Unit	Service	Offer price	change	Contribution
14:05	\$8235.73	Infratil Energy	ANGAS1	Energy	\$9999.98	0.50	\$5037.6
		Infratil Energy	ANGAS2	Energy	\$9999.98	0.34	\$3358.4
		Synergen Power	MINTARO	Energy	-\$1000.00	0.16	-\$160.3
14:10	\$8235.73	Infratil Energy	ANGAS1	Energy	\$9999.98	0.50	\$5037.6
		Infratil Energy	ANGAS2	Energy	\$9999.98	0.34	\$3358.4
		Synergen Power	MINTARO	Energy	-\$1000.00	0.16	-\$160.3
14:15	\$8235.73	Infratil Energy	ANGAS1	Energy	\$9999.98	0.50	\$5037.6
		Infratil Energy	ANGAS2	Energy	\$9999.98	0.34	\$3358.4
		Synergen Power	MINTARO	Energy	-\$1000.00	0.16	-\$160.3
14:20	\$8235.73	Infratil Energy	ANGAS1	Energy	\$9999.98	0.50	\$5037.6
		Infratil Energy	ANGAS2	Energy	\$9999.98	0.34	\$3358.4
		Synergen Power	MINTARO	Energy	-\$1000.00	0.16	-\$160.3
14:25	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.18	\$1818. <sup>-</sup>
		AGL (SA)	TORRA4	Energy	\$9999.77	0.18	\$1818.
		AGL (SA)	TORRB1	Energy	\$9999.77	0.21	\$2121.
		AGL (SA)	TORRB3	Energy	\$9999.77	0.21	\$2121.
		AGL (SA)	TORRB4	Energy	\$9999.77	0.21	\$2121.
14:30	\$9999.91	Hydro Tasmania	FISHER	Raise 5 min	\$0.94	1.00	\$0.9
		AGL (SA)	TORRB1	Energy	\$9999.77	0.50	\$4999.8
		AGL (SA)	TORRB1	Lower reg	\$0.80	-0.50	-\$0.4
		AGL (SA)	TORRB1	Raise reg	\$0.80	-0.50	-\$0.4
		AGL (SA)	TORRB3	Energy	\$9999.77	0.50	\$4999.8
		AGL (SA)	TORRB3	Raise reg	\$0.80	-0.50	-\$0.4
		AGL (SA)	TORRB4	Lower reg	\$0.80	0.50	\$0.4
Spot pi	rice	\$8824/MWh		-			

South Australia – Wednesday 10 February, 3 pm

Time	Dispatch price	Participant	Unit	Service	Offer price	Marginal change	Contribution
14:35	\$10001.11	Hydro Tasmania	DEVILS_G	Lower 5 min	\$0.45	-1.00	-\$0.45
		Hydro Tasmania	JBUTTERS	Lower reg	\$1.30	1.00	\$1.30
		Hydro Tasmania	REECE2	Raise 5 min	\$0.94	1.00	\$0.94
		AGL (SA)	TORRB3	Energy	\$9999.77	0.50	\$4999.89
		AGL (SA)	TORRB3	Lower reg	\$0.25	-0.50	-\$0.13
		AGL (SA)	TORRB3	Raise reg	\$0.25	-0.50	-\$0.13
		AGL (SA)	TORRB4	Energy	\$9999.77	0.50	\$4999.89
		AGL (SA)	TORRB4	Lower reg	\$0.25	-0.50	-\$0.13
		AGL (SA)	TORRB4	Raise reg	\$0.25	-0.50	-\$0.13
		TRUenergy (Vic)	YWPS4	Lower 5 min	\$0.05	1.00	\$0.05
		Macquarie					
14:40	\$420.18	Generation	BW02	Lower reg	\$0.80	-1.47	-\$1.17
		CS Energy	CALL_B_1	Raise 60 sec	\$0.38	1.47	\$0.56
		Hydro Tasmania	DEVILS_G	Raise 5 min	\$0.94	-1.47	-\$1.38
		Eraring Energy	ER01	Raise 5 min	\$1.00	1.47	\$1.47
		Eraring Energy	ER01	Raise 6 sec	\$0.25	1.47	\$0.37
		Hydro Tasmania	GORDON	Lower 60 sec	\$0.99	1.47	\$1.45
		Hydro Tasmania	JBUTTERS	Lower reg	\$1.30	1.47	\$1.9
		Snowy Hydro	MURRAY	Energy	-\$1000.00	-0.38	\$379.94
		Hydro Tasmania	POAT220	Lower 6 sec	\$0.35	1.47	\$0.51
		Hydro Tasmania	REECE2	Energy	\$22.26	1.64	\$36.51
14:45	\$302.36	Hydro Tasmania	CETHANA	Energy	\$22.24	1.53	\$34.12
		Hydro Tasmania	CETHANA	Lower 5 min	\$0.45	1.38	\$0.62
		Hydro Tasmania	CETHANA	Lower 6 sec	\$0.35	-0.91	-\$0.32
		Hydro Tasmania	GORDON	Lower 60 sec	\$0.99	1.38	\$1.36
		AGL Hydro	MCKAY1	Energy	-\$1000.00	-0.22	\$216.48
		Delta Electricity	MP1	Raise 60 sec	\$0.10	1.38	\$0.14
		Hydro Tasmania	POAT220	Lower 6 sec	\$0.35	2.28	\$0.80
		CS Energy	SWAN_B_4	Lower 5 min	\$0.01	-1.38	-\$0.01
		Delta Electricity	VP6	Raise 6 sec	\$0.10	1.38	\$0.14
		AGL Hydro	WKIEWA1	Energy	-\$1000.00	-0.02	\$24.51
		AGL Hydro	WKIEWA2	Energy	-\$1000.00	-0.02	\$24.51
14:50	\$9999.77	AGL (SA)	TORRA4	Energy	\$9999.77	0.22	\$2222.15
		AGL (SA)	TORRB1	Energy	\$9999.77	0.26	\$2592.54
		AGL (SA)	TORRB3	Energy	\$9999.77	0.26	\$2592.54
		AGL (SA)	TORRB4	Energy	\$9999.77	0.26	\$2592.54
14:55	\$9999.77	AGL (SA)	TORRB1	Energy	\$9999.77	0.33	\$3333.22
		AGL (SA)	TORRB3	Energy	\$9999.77	0.33	\$3333.22
		AGL (SA)	TORRB4	Energy	\$9999.77	0.33	\$3333.22
15:00	\$9999.77	AGL (SA)	TORRA2	Energy	\$9999.77	0.50	\$4999.89
		AGL (SA)	TORRA4	Energy	\$9999.77	0.50	\$4999.89
Spot pr		\$6787/MWh					

### **Appendix C – Closing bids**

Figures C1 - C10 highlight the half hour closing bids for participants in South Australia and Victoria 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 C1: AGL- Angaston (South Australia) closing bid prices, dispatch and spot price on Monday 8 February

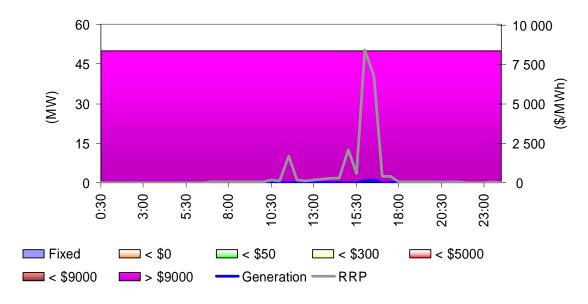


Figure C2: AGL Hydro - Hallett wind farms 1 and 2 (South Australia) closing bid prices, dispatch and spot price on Monday 8 February

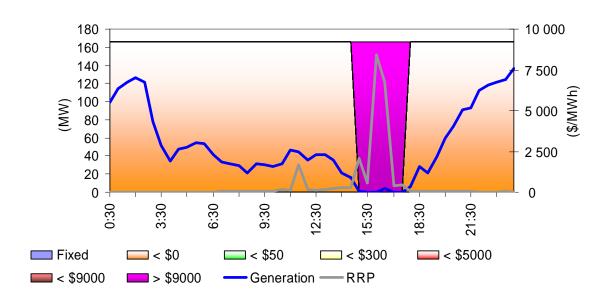


Figure C3: AGL - TIPS (South Australia) bid prices, dispatch and spot price on Monday 8 February

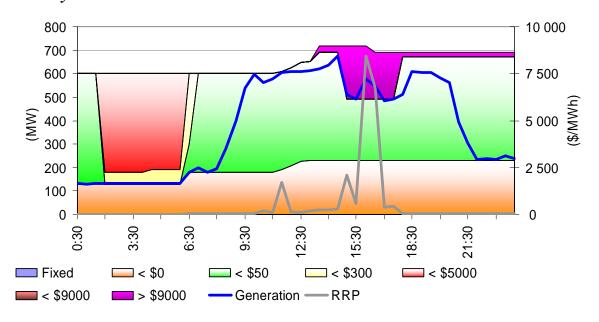


Figure C4: Ecogen Energy (Victoria) bid prices, dispatch and spot price on Monday 8 February

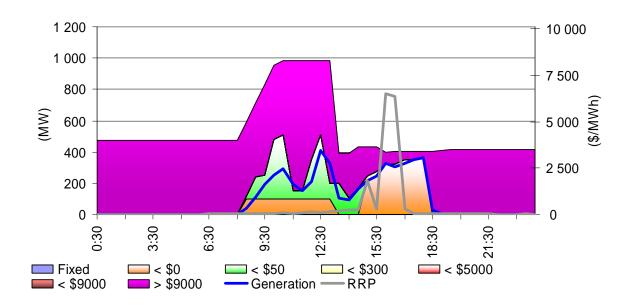


Figure C5: International Power (Victoria) closing bid prices, dispatch and spot price on Monday 8 February

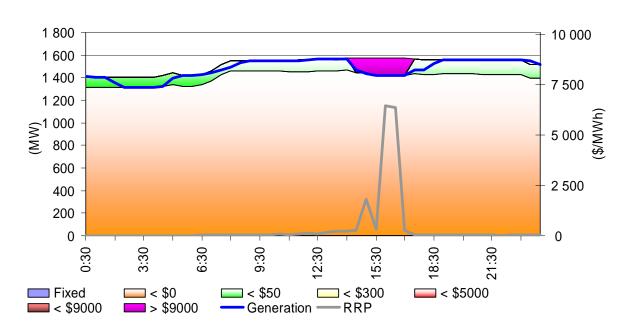


Figure C6: LYMMCO - Loy Yang A (Victoria) closing bid prices, dispatch and spot price on Monday 8 February

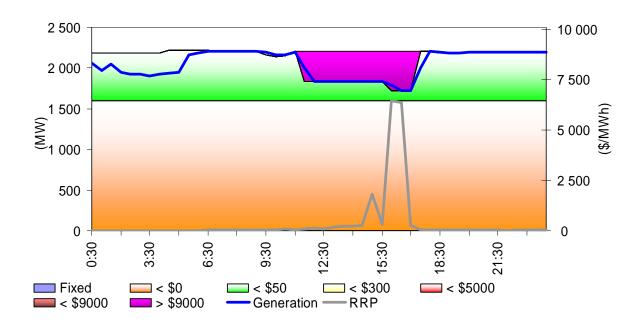


Figure C7: AGL - Angaston (South Australia) closing bid prices, dispatch and spot price on Tuesday 9 February

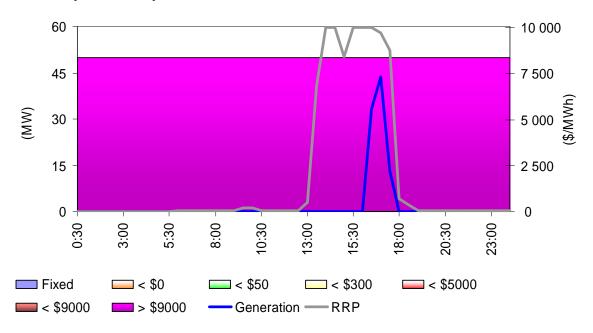


Figure C8: AGL - TIPS (South Australia) bid prices, dispatch and spot price on Tuesday 9 February

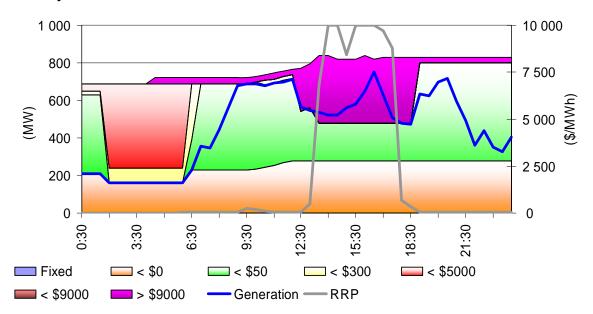


Figure C9: Ecogen Energy (Victoria) bid prices, dispatch and spot price on Tuesday 9 February

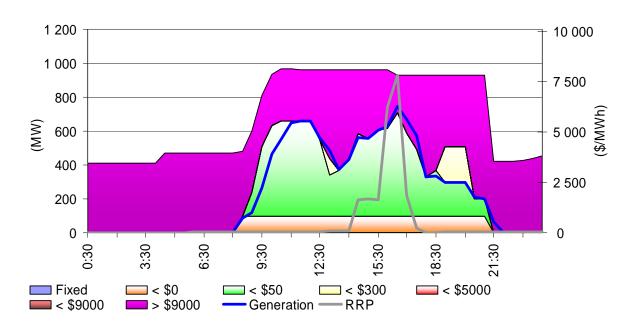


Figure C10: International Power (Victoria) closing bid prices, dispatch and spot price on Tuesday 9 February

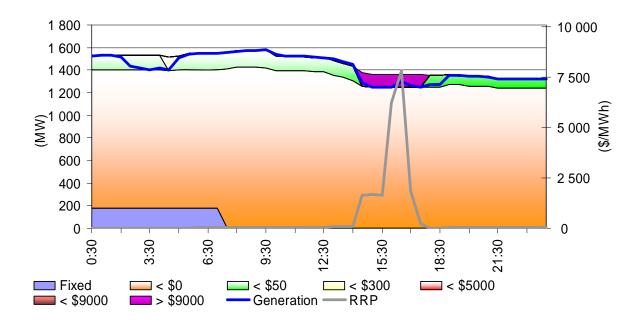


Figure C11: LYMMCO - Loy Yang A (Victoria) closing bid prices, dispatch and spot price on Tuesday 9 February

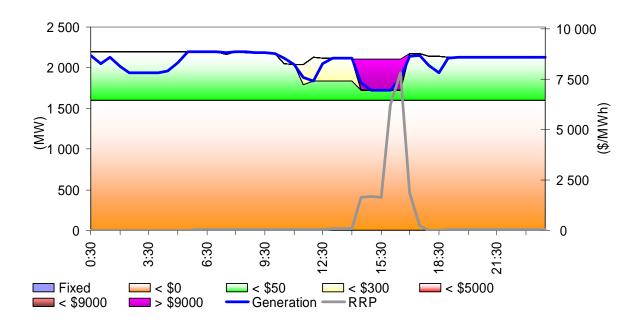


Figure C12:AGL – Angaston (South Australia) closing bid prices, dispatch and spot price on Wednesday 10 February

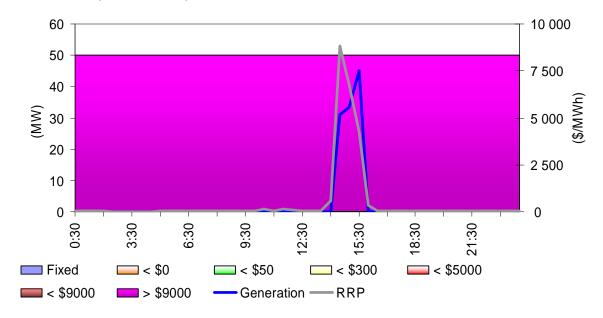


Figure C13: AGL - TIPS (South Australia) bid prices, dispatch and spot price on Wednesday 10 February

