

## Electricity Pricing Event Report - Thursday 15 June 2017 to Sunday 18 June 2017

**Market Outcomes:** The spot price in Tasmania (TAS) reached:

- \$2,092.15/MWh for trading interval (TI) ending 1230 hrs on 15 June 2017,
- \$2,132.69/MWh for TI ending 0630 hrs on 16 June 2017,
- \$2,100.28/MWh for TI ending 2130 hrs on 16 June 2017, and
- \$2,162.23/MWh for TI ending 0100 hrs on 18 June 2017.

TAS Raise Frequency Control Ancillary Service (FCAS) prices were elevated, reaching up to \$2,400.19/MWh in the high priced energy TIs. Energy prices and FCAS prices in other regions were not affected by this event.

**Detailed Analysis:** The 5-minute dispatch energy price in TAS reached \$12,114/MWh for dispatch interval (DI) ending 1205 hrs on 15 June 2017, DI ending 2105 hrs on 16 June 2017 and DI ending 0045 hrs on 18 June 2017. These high prices can mainly be attributed to rebidding of energy and FCAS capacity, forced Basslink flows towards Victoria (VIC), and limited availability of cheaply priced energy and FCAS capacity.

For DI ending 1205 hrs on 15 June 2017, DI ending 2105 hrs on 16 June 2017 and DI ending 0045 hrs on 18 June 2017, Hydro Tas shifted up to 250 MW of generation volume from bands priced at \$107.70/MWh and below to bands priced at \$12,114/MWh and above.

In the same DIs, Hydro Tas withdrew up to 24 MW of Fast Raise FCAS capacity, and up to 198 MW of Regulation Raise FCAS capacity. These withdrawals together with the FCAS / energy cooptimisation, caused the TAS Fast Raise dispatch price to reach up to \$12,070.40/MWh, and the TAS Regulation Raise dispatch price to reach up to \$5,719.09/MWh.

The rebid reasons for DI ending 1205 on 15 June 2017 in the energy and FCAS markets were:

- 1118P FCAS REQUIREMENT DIFFERENT TO FORECAST
- 1126P FCAS REQUIREMENT DIFFERENT TO FORECAST
- 1146A BASSLINK FLOW DIFFERENT FROM FORECAST

The rebid reasons for DI ending 1905 hrs on 16 June 2017 in the energy and FCAS markets were:

- 1003A CHANGE IN VIC PRICE FORECAST
- 1922P MACHINE TARGET DIFFERENT TO EXPECTATION

The rebid reason for DI ending 0045 hrs on 18 June 2017 in the energy market was:

- 0033A FCAS REQUIREMENT > FORECAST: TAS R6

The target flow on the Basslink interconnector ranged between 38 MW and 82 MW towards VIC in these three high priced DIs, further contributing to the high dispatch energy prices. These flows were due to the constraint equations F\_T++NIL\_MG\_RECL\_R6, F\_T++NIL\_MG\_RECL\_R5 and F\_T++NIL\_WF\_TG\_R6. The F\_T++NIL\_MG\_RECL\_R6 system normal FCAS constraint equation manages the 6 second Raise FCAS requirement for TAS for a reclassified Woolnorth generation event when Basslink is able to transfer FCAS. The F\_T++NIL\_MG\_RECL\_R5 system normal FCAS constraint equation manages the 5 minute Raise FCAS requirement for TAS for a reclassified Woolnorth generation event when Basslink is able to transfer FCAS. The F\_T++NIL\_WF\_TG\_R6 system normal FCAS constraint equation manages the 6 second Raise FCAS requirement for TAS for loss of a Smithton to Woolnorth or Norwood to Scottsdale tee Derby line when Basslink is able to transfer FCAS.

Cheaper priced Raise FCAS was available through Liapootah Wayatinah Catagunya, Poatina 110, Poatina 220, Reece unit 2 and Trevallyn, but was limited by its FCAS trapezium.

The 5-minute energy dispatch price in TAS also reached \$12,114.39/MWh for DI ending 0620 hrs on 16 June 2017. This high price can be attributed to limited availability of cheaply priced energy and FCAS capacity.

For DI ending 0620 hrs, the target flow on the Basslink interconnector was limited to 435 MW towards TAS by the constraint equation F\_MAIN++LREG\_0120. This FCAS constraint equation manages the Mainland Lower Regulation FCAS requirement when it is greater than 120 MW and Basslink is able to transfer FCAS.

For the high priced DI, cheaper priced Raise FCAS was available through Liapootah Wayatinah Catagunya and Reece unit 2, but was limited by its FCAS trapezium. The limited availability of low priced FCAS and the FCAS / energy cooptimisation caused the TAS Fast Raise dispatch price to reach the MPC, and the TAS Regulation Raise dispatch price to reach \$12,005.45/MWh.

The 5-minute energy and FCAS prices in TAS decreased to \$110.86/MWh or below for the DIs following the high priced DIs, when the target flow across the Basslink interconnector increased towards TAS and dispatch of energy/ FCAS from particular units was no longer limited by its FCAS trapezium.

The high 30-minute spot prices for Tasmania were not forecast in the pre-dispatch schedules as they were due to rebidding of energy, rebidding of FCAS capacity, and/ or limited energy and FCAS capacity due to trapezium limits.