

## Electricity Pricing Event Report – Tuesday, 04 October 2016

**Market Outcomes:** Spot price in Tasmania reached \$2,419.85/MWh for trading interval (TI) ending 0630 hrs.

Energy and FCAS prices in other regions were not affected by this event. Fast Raise FCAS price in Tasmania was elevated, but remained below the reporting threshold.

**Detailed Analysis:** The 5-Minute dispatch price in Tasmania reached the Market Price Cap (MPC) of \$14,000/MWh for dispatch interval (DI) ending 0625 hrs. This high price can be mainly attributed to a reduction in available generation from Musselroe wind farm (WF), during the morning peak demand period, while Basslink was exporting to Victoria.

High wind speeds (> 23 m/s) at Musselroe WF caused high wind speed cut-out of some turbines, resulting in a reduction in generation output. Between DIs ending 0620 hrs and 0625 hrs, Musselroe WF availability decreased by approximately 151 MW, from 161 MW at DI ending 0620 hrs to 10 MW at DI ending 0625 hrs.

During the high priced DI, the target flow on Basslink was forced towards Victoria by the thermal constraint equation  $T >> T\_NIL\_BL\_EXP\_6E$ . This constraint equation is a network control system protection scheme (NCSPS) constraint that prevents overload on a Sheffield-George Town 220 kV line for the loss of the parallel line.

Lower priced generation was available but limited by ramp rates (Poatina PS units 1 – 6), required more than one DI to synchronise (Tamar Valley Peaking PS unit 2) or was constrained off by the thermal constraint equation  $T >> T\_NIL\_BL\_EXP\_6E$  (Reece 1 PS, John Butters PS, Gordon PS Lemonthyme and Wilmont PS and Fisher PS).

The reduction in available generation from Musselroe WF during the morning peak demand as well as forced export to Victoria on Basslink resulted in a tight supply situation in Tasmania. Due to the tight supply, target flow towards Victoria on Basslink was limited to 119.02 MW for DI ending 0625 hrs, which violated the limit of 119.81 MW set by the thermal constraint equation  $T >> T\_NIL\_BL\_EXP\_6E$ .

For DI ending 0625 hrs, the violated constraint reduced generation from a number of Tasmanian generating units by approximately 95 MW.

The decreased target flow towards Victoria on the Basslink interconnector resulted in increased FCAS Contingency Raise requirements in Tasmania. Prices for Fast Raise FCAS were elevated to \$547.29/MWh for DI ending 0625 hrs, however remained below the reporting threshold.

The 5-minute dispatch price reduced to \$63.26/MWh for DI ending 0630 hrs, when demand reduced by approximately 89 MW, the availability from Musselroe WF increased back to 162 MW and the constraint equation  $T >> T\_NIL\_BL\_EXP\_6E$  was no longer violating.

The high 30-minute spot price was not forecast in any of the pre-dispatch schedules, as it was due to the reduction in generation availability within the affected trading interval.