

Electricity Pricing Event Report – Sunday 29 January 2017

Market Outcomes: Spot prices in Queensland (QLD) were \$2,408.10/MWh and \$2,339.46/MWh for trading intervals (TIs) ending 1630 hrs and 1830 hrs respectively on 29 January 2017.

Energy prices in other regions were not affected by this event. FCAS prices in all regions were not affected by this event.

Counter price flows caused negative settlement residues of approximately \$410,000 to accumulate on the Queensland to New South Wales directional interconnector for TI ending 1630 hrs. AEMO managed negative settlement residues from 1640 hrs to 1715 hrs (Market Notices No. 57074 and 57075).

Detailed Analysis: The 5-Minute dispatch Energy prices in Queensland was near or at the Market Price Cap (MPC) of \$14,000/MWh for dispatch intervals (DIs) ending 1605 hrs and 1805 hrs. This high price can mainly be attributed to rebidding of generation capacity during the peak demand period.

Demand in QLD was high during the high priced TIs, reaching 7,493 MW for TI ending 1630 hrs and 7,776 MW for TI ending 1830 hrs. This high demand coincided with high temperatures in QLD, with a daily peak of 31.5 degrees (Archerfield).

For DI ending 1605 hrs, CS Energy, Stanwell, ERM, Arrow Energy and InterGen shifted 315 MW of generation capacity from bands priced at below \$100/MWh to the MPC. Lower priced generation was available but required more than one DI to synchronise (Braemar GT unit 1 and Mt Stuart GT unit 1) or limited by ramp up rates (Millmerran unit 2 and Oakey GT unit 1). The target flow on the QNI interconnector towards Queensland was limited to 144 MW by the system normal constraint equation N^{^^}Q_NIL_B1. This constraint equation avoids voltage collapse on the loss of Kogan Creek PS. The target flow on the Terranora interconnector towards Queensland was limited to 17 MW by the outage constraint equation N_X_MBTE2_A that manages the outage of two Directlink cables. Directlink DC1 was on an unplanned outage scheduled between 0325 hrs on 17 January 2017 and 1249 hrs on 15 February 2017. Directlink DC3 was on a planned outage scheduled between 0700 hrs on 23 January 2017 and 1354hrs on 08 February 2017.

The 5-minute price reduced to \$99.47/MWh for DI ending 1610 hrs, when 1,005 MW of generation capacity was rebid to bands priced at the Market Floor Price (MFP) and demand in the region reduced by 157 MW.

For DI ending 1805 hrs, Stanwell, CS Energy and InterGen shifted 485 MW of generation capacity from bands priced at below \$100/MWh to the MPC. Lower priced generation was available but limited by its fast start profile (Braemar GT unit 5) or constrained off by the system normal constraint equation Q>NIL_BI_FB (Gladstone PS unit 3). The Q>NIL_BI_FB constraint equation avoids overloading the Boyne Island feeder bushing on Calliope River – Boyne Island 132 kV lines, for the loss of a single Calliope River – Boyne Island 132 kV line. The target flows on the QNI and Terranora interconnectors towards Queensland were limited to 138 MW and 8 MW respectively by the same constraint equations as that of DI ending 1605 hrs.

The 5-minute price reduced to \$0/MWh for DI ending 1610 hrs, when 523MW of generation capacity was rebid to bands priced at either \$0/MWh or the MFP and demand in the region reduced by 190 MW.

The high 30-minute spot prices for Queensland were forecast in some of the pre-dispatch schedules.