Electricity Pricing Event Report - Tuesday 31 January 2017

Market Outcomes: Spot prices in Queensland (QLD) reached $2,297.84/MWh and $2,367.31/MWh for trading intervals (TIs) ending 1600 hrs and 1630 hrs respectively on 31 January 2017.

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

Detailed Analysis: The 5-minute dispatch energy prices in QLD were $13,399.95/MWh for dispatch intervals (DIs) ending 1540 hrs and 1630 hrs. These high prices can be attributed to rebidding of cheaper priced generation capacity and an increase in demand, while interconnector support was constrained.

Demand in QLD was high, reaching 8,505 MW and 8,729 MW for TIs ending 1600 hrs and 1630 hrs respectively. This high demand coincided with high temperatures in QLD, with a daily peak of 33.5 degrees (Archerfield Airport).

Between DIs ending 1535 hrs and 1540 hrs, demand in QLD increased by 106 MW and the sum of the target flow on the interconnectors towards QLD decreased by 31 MW to 126 MW. At DI ending 1540 hrs, target flow on the QNI interconnector towards QLD was limited to 205 MW by the system normal constraint equation N>>N-NIL__3_OPENED. This constraint avoids overload of the Liddell - Muswellbrook No.83 330 kV line for the trip of the Liddell - Tamworth No.84 330 kV line. For the same DI, target flow on the Terranora interconnector was forced towards NSW of 79 MW by the thermal outage constraint equation N>N-CHKK_TE_1. This outage avoids overload of the Armidale - Koolkhan No.966 132 kV line for the trip of the Coffs Harbour - Lismore No.89 330 kV line during the outage of the Coffs Harbour - Koolkhan No.96H 132 kV line.

For DI ending 1540 hrs, CS Energy rebid 250 MW of generation capacity from band priced at $0/MWh to the Market Price Cap (MPC) of $14,000/MWh. Cheaper priced generation was available but was limited due to ramp rates (Millmerran PS unit 1 and Gladstone PS unit 3).

The 5-minute price in QLD reduced to $46.55/MWh for DI ending 1545 hrs, when demand in the region decreased by 100 MW. Alinta, Arrow Energy, InterGen, Origin, Stanwell and CS Energy also rebid 724 MW of generation capacity from the MPC to bands priced at $0/MWh or below.

Between DIs ending 1625 hrs and 1630 hrs, demand in QLD increased by 25 MW and the sum of the target flow on the interconnectors towards QLD decreased by 11 MW to 107 MW. At DI ending 1630 hrs, flow on the QNI (190 MW towards QLD) and Terranora (83 MW towards NSW) interconnector were limited by the constraint equations N>>N-NIL__3_OPENED and N>N-CHKK_TE_1, respectively.

For DI ending 1630 hrs, Alinta rebid 137 MW of generation capacity from bands priced at $254.13/MWh and below to the MPC. Cheaper priced generation was available but was constrained off by the system normal constraint equation Q>NIL_BI_FB (Gladstone PS unit 3 and 4). 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 5-minute price in QLD reduced to $74.11/MWh for DI ending 1635 hrs, when demand in the region decreased by 268 MW. Alinta also shifted 137 MW of generation capacity from the MPC to band priced at $74.74/MWh.

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