

Electricity Pricing Event Report – Wednesday 30 December 2015*

Market Outcomes: South Australia spot price was between \$517.32/MWh and \$1,014.48/MWh for four trading intervals (TIs) between TIs ending 1530 hrs and 1730 hrs.

FCAS prices in all regions and Energy prices for the other NEM regions were not affected by this event.

Detailed Analysis: 5-Minute dispatch price in South Australia reached a maximum of \$2,950.40/MWh for dispatch interval (DI) ending 1730 hrs. The high prices can be attributed to high demand, change in non-scheduled generation availability and limited interconnector support.

- Temperatures in Adelaide reached a maximum of 38.1°C and the demand reached 2385 MW for TI ending 1730 hrs.
- Wind generation was moderate, averaging at 228 MW during the high price intervals.
- South Australia prices spiked to above \$1,000/MWh for DIs ending 1600 hrs, 1620 hrs, 1635 hrs, 1730 hrs and 1800 hrs when non-scheduled generation reduced their availability to 0 MW.
- During the high price intervals, target flow on the Heywood interconnector was limited up to 142 MW towards South Australia by V>>S_NIL_KHTB2_KHT and S>>NIL_SETB_KHTB1 system normal constraint equations. The constraint equation V>>S_NIL_KHTB2_KHTB1 prevents overload of the Keith – Tailem Bend no.1 275 kV transmission line for the loss of the parallel Keith – Tailem Bend no.2 transmission line. The constraint equation S>>NIL_SETB_KHTB1 prevents overload of Keith – Tailem Bend no.1 132 kV transmission line for the loss of the South East – Tailem Bend n275 kV transmission lines.
- During the high price intervals, target flow on the Murraylink interconnector was limited up to 96 MW towards Victoria by V>>SML_NIL_MLTS_N-2 and N^AV_NIL_1 system normal constraint equations. The constraint equation V>>SML_NIL_MLTS_N-2 prevents overload of Elaine – Ballarat 220 kV transmission line for the loss of the Ballarat – Moorabool – Terang 220 kV transmission line. The constraint equation N^AV_NIL_1 avoids voltage collapse in southern areas of New South Wales for the loss of the largest Victorian generating unit.
- Cheaper priced generation was available during the high price intervals but limited due to fast-start profiles (Torrens Island A unit 4) or ramp rates (Mintaro), were constrained off by the V>>S_NIL_KHTB2_KHTB1 constraint equation (Ladbroke units 1 and 2, Lake Bonney 2 and 3 wind farms), or required more than one DI to synchronise (Mintaro).

South Australia dispatch price reduced to below \$500/MWh for subsequent intervals following high prices when:

- Demand reduced, which non-scheduled generation coming online.
- Rebidding of generation capacity from higher to lower priced bands.

* A summary was prepared as the maximum daily spot price was between \$500/MWh and \$2,000/MWh.