Electricity Pricing Event Report – Thursday 27 August 2015

Market Outcomes: South Australian spot price reached $2337.31/MWh and $1835.23/MWh for trading intervals (TIs) ending 0800 hrs and 0830 hrs respectively.

South Australian FCAS prices and energy and FCAS prices for the other NEM regions were not affected by this event.

Detailed Analysis: 5-Minute dispatch price in South Australia reached the Market Price Cap (MPC) of $13,800/MWh and $10759.20/MWh for dispatch intervals (DIs) ending 0735 hrs and 0810 hrs respectively. The high price can be attributed to reduced availability of cheaper priced generation during the morning peak demand, rebidding and the decrease of non-scheduled generation.

The South Australian demand averaged 1,848 MW between TIs ending 0800 hrs and 0830 hrs. For the same intervals, the wind generation in South Australia was low with an average of 133 MW.

During the high priced dispatch intervals, Northern PS unit 1 was starting up with a maximum availability of 12 MW after being offline since 15 August 2015. Northern PS unit 2 which generally offers capacity up to 273 MW was unavailable since DI ending 0430 hrs on 27 August 2015.

For DI ending 0735 hrs, cheaper priced generation was available but limited due to ramp rates (Hallet PS, Mintaro Gas GT), or required more than one DI to synchronise (Dry Creek unit 2). The target flow on the Heywood interconnector was limited to 435 MW towards South Australia by the thermal constraint equation, V>S_NIL_HYTX_HYTX. This system normal constraint equation manages post contingent flow on the Heywood 275/500 kV transformers by reducing the Heywood interconnector flow when the actual flow exceeds the pre-defined transformer rating. The target flow on the Murraylink interconnector was limited to 220 MW towards South Australia by the upper transfer limit constraint equation, VSML_220.

The 5-minute price reduced to $44.70/MWh in the subsequent interval, DI ending 0740 hrs, when the demand was reduced by approximately 177 MW while 94 MW of non-scheduled generation came online. Also, a total of 225 MW of generation capacity was rebid from price bands higher than $350/MWh to market floor price (MFP) of -$1000/MWh which contributed to reducing the dispatch price.

Between DIs ending 0805 hrs and 0810 hrs, Synergen, Energy Australia and AGL shifted or rebid 225 MW of generation capacity from bands priced at MFP to bands priced at higher than $10,759/MWh. Non-scheduled generation that had come online following the earlier high price had reduced their output from 108MW to 8 MW. Cheaper priced generation was available but limited due to FCAS profile (Torrens Island A unit 2) or constrained off by thermal constraint equation S>>NIL_TBTU_TBMO (Ladbroke PS, Lake Bonney WF and Snuggery PS unit 1).

The target flow on the Heywood interconnector was limited to 460 MW by the Victoria to South Australia Heywood upper transfer limit thermal constraint equation, V>S_460. The Heywood interconnector was also limited by the thermal constraint equation, S>>NIL_TBTU_TBMO. This constraint equation avoids overloading of the Tailem Bend-Mobilong 132 kV line for the contingent trip of the Tailem Bend-Tungkillo 275 kV line. The target flow on the Murraylink interconnector was limited up to 205 MW towards South Australia by a voltage stability constraint equation, V^SML_NSWRB_2. This constraint equation avoids voltage collapse in Victoria for loss of the Darlington Point to Buronga (X5) 220 kV line.

The 5-minute price reduced to $47.14/MWh in the subsequent DI to the high priced interval when the demand was reduced by approximately 107 MW while 103 MW of non-scheduled generation came online. Also, a total of 725 MW of generation capacity was rebid from higher priced bands to MFP.

The high 30-minute spot price for South Australia for TI ending 0800 hrs was not forecast in the latest pre-dispatch schedule, as the forecast demand was approximately 46 MW lower in the pre-dispatch schedule.

The high 30-minute spot price for South Australia for TI ending 0830 hrs was forecast in the latest pre-dispatch schedule.