Electricity Pricing Event Report – Tuesday 8 November 2016

Market Outcomes: Spot price in New South Wales (NSW) reached $2,190.99/MWh and spot price in Queensland (QLD) reached $2,029.11/MWh, at TI ending 1530 hrs, on 8 November 2016

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 $290,000 to accumulate on the Victoria to New South Wales directional interconnector between 1530 hrs and 1600 hrs. AEMO managed these from 1525 hrs to 1645 hrs (Market Notices 55584 and 55591).

Detailed Analysis: The 5-minute Energy price in NSW reached $13,999.98/MWh and $-999.99/MWh for DIs ending 1505 hrs and 1530 hrs. For these same DIs, the 5-minute Energy price in Queensland was $12,947.48/MWh and -$904.65/MWh. These high and low prices coincided with generator outages, rebidding of capacity in NSW and QLD, and limited interconnector support available from VIC to NSW.

During this period, all Eraring PS units (4 x 750 MW) and Bayswater unit 2 (700 MW) were out of service.

For DI ending 1435 hrs, a number of generators in NSW shifted or rebid capacity from higher priced bands to the Market Floor Price (MFP) of -$1000/MWh. Up to 937 MW of generation capacity was shifted or rebid from bands priced at or above $0/MWh to the MFP. The increased output from some of these generators resulted in increased loading of the Canberra – Yass No.9 and Kangaroo Valley – Dapto No.18 330 kV lines.

For DI ending 1500 hrs, Barcaldine PS (35 MW) withdrew all generation capacity with the reason "08/11/16 1447 P: Failed to sync" and Upper Tumut reduced availability by 12 MW with the reason "14:49 P MATCH BID TO CAPABILITY/POND LEVEL CHANGE".

Between DIs ending 1505 hrs and 1720 hrs, following real time contingency analysis (RTCA) indications that the Canberra – Yass No.9 330 kV line would overload for the loss of the parallel Kangaroo Valley – Dapto No.18 330 kV line, AEMO invoked CA_SPS_4733E84B_01 constraint equation to prevent the potential overload of the Canberra – Yass No.9 330 kV line. As no pre-formulated constraint equations were available, constraint automation was used to build the CA_SPS_4733E84B_01 constraint equation.

The CA_SPS_4733E84B_01 constraint equation further restricted flow towards NSW on the VIC-NSW interconnector. For DI ending 1505 hrs, target flow on the VIC-NSW interconnector was limited to 51 MW. For the same DI, Darling Downs PS and Mount Stuart unit 1 shifted a combined capacity of 140 MW from bands priced at-$1.03/MWh or below to bands priced at $14,000/MWh. Higher priced generation had to be sourced to meet demand causing the 5-min price in QLD and NSW to reach $12,947.48/MWh and $13,999.98/MWh respectively. Lower priced generation was available but were limited by ramp rates (Barron unit 1, Mount Piper unit 2, Tallawarra PS, Vales Point unit 5 and 6) or required more than one DI to synchronise (Braemar unit 6, Mount Stuart unit 3).

Between DIs ending 1510 hrs and 1605 hrs, flow on the VIC-NSW interconnector was forced towards Victoria by CA_SPS_4733E84B_01 constraint equation starting at 51 MW towards NSW at DI ending 1505 hrs and reversing direction to 99 MW towards VIC at DI ending 1510. This resulted in the accumulation of negative settlement residues across the NSW to VIC directional interconnector

amounting to approximately $290,000. The negative residue constraint equation NRM_NSW1_VIC1 was invoked from DI ending 1530 hrs to 1645 hrs.

Between DI ending 1510 hrs and 1530 hrs, 1,249 MW of capacity in QLD and 2,930 MW of capacity in NSW was rebid to the MFP. This increased availability of lower priced capacity resulted in the dispatch price for DI ending 1530 hrs reaching -$904.65/MWh and -$999.99/MWh in QLD and NSW, respectively.

The 5-minute dispatch price increased to $36.29/MWh and $35.17/MWh in NSW and QLD, respectively, for DI ending 1535 hrs when 4,084 MW of capacity in the two regions was rebid or shifted from bands priced at -$1000/MWh to bands priced at $0/MWh or above.

The high 30-minute spot price for New South Wales and Queensland were forecast in the latest pre-dispatch schedules.