**Electricity Pricing Event Report – Thursday 18 February 2016**

**Market Outcomes:** Queensland spot prices were between $1,449.90/MWh and $2,251.59/MWh for 8 trading intervals (TIs) between 1600 hrs and 2030 hrs.

Queensland FCAS prices as well as energy and FCAS prices in other regions were not affected.

Counter price flows caused negative settlement residues of approximately $621,000 to accumulate on the Queensland to New South Wales directional interconnector between TIs ending 1430 hrs and 1700 hrs. AEMO managed negative settlement residues from 1555 hrs to 1630 hrs (Market Notices No. 51954 and 51957), 1725 hrs to 1830 hrs (Market Notices No. 51961 and 51974) and 1910 hrs to 1950 hrs (Market Notices No. 51980 and 51983).

Further information is provided below.

**Detailed Analysis:** 5-Minute dispatch prices in Queensland reached $12,700.10/MWh or $12,700.30/MWh for 8 dispatch intervals (DIs) between 1535 hrs and 2005 hrs. These high prices can be attributed to high demand and rebidding.

Queensland demand peaked at 8,678 MW for TI ending 1700 hrs. The maximum temperature in Brisbane was 34.3 $^{o}$C.

Generation capacity of up to 784 MW was shifted/rebid during the high priced DIs from lower priced bands to bands priced above $12,700.10/MWh or the Market Price Cap (MPC) of $13,800/MWh. These rebids were submitted by a range of market participants. The rebids of 250 MW from Wivenhoe PS unit 1 or 2 (ramp down rate of 120 MW per minute) for most of the high priced DIs, resulted in sudden decreases of 250 MW of target generation in Queensland which also contributed to the high prices.

Cheaper priced generation was available but limited due to ramp rates (Tarong PS unit 4, Millmerran unit 1 and 2, Callide B PS unit 1 and 2 and Callide B PP unit 3) or the unit required more than one DI to synchronise (Mt Stuart PS unit 1) or FCAS profile (Callide B PS unit 1 and 2). In addition 137 MW of capacity was made unavailable at Mt Stuart PS unit 1 for DI ending 1850 hrs with the reason "1840P UNIT SHUTDOWN AND LOCKOUT SL".

During the high priced intervals, the target flow on the QNI interconnector was limited up to 177.5 MW towards Queensland by the voltage stability constraint equations N^Q_NIL_A and N^^Q_NIL_B1 and the system normal thermal constraint equation N>>N-NIL__3_OPENED. N^Q_NIL_A constraint equation prevents voltage collapse on the loss of Liddell-Muswellbrook 330kV line. N^^Q_NIL_B1 constraint equation prevents voltage collapse in New South Wales for tripping of the Kogan Creek PS. N>>N-NIL__3_OPENED constraint equation manages the post-contingent flow on the Liddell-Muswellbrook no.83 330 kV line on trip of the Liddell-Tamworth no.84 330 kV line.

The target flow on the Terranora interconnector was limited up to 6.6 MW towards Queensland by the voltage stability constraint equations N^Q_NIL_A and N^^Q_NIL_B1 and the outage constraint equation N>N-BAMB_132_OPEN_A. N>N-BAMB_132_OPEN_A constraint equation prevents the overload of a Lismore – Dunoon 132 kV transmission line for the trip of the parallel line during the outage of the Ballina – Lennox Head 132 kV transmission line.

A negative settlement residues management constraint equation was invoked for 28 DIs between DIs ending 1600 hrs and 1950 hrs. This is due to excess cheaper generation in Queensland when a

large amount of generation capacity rebid from higher priced bands to lower priced bands or the MFP.

The 5-minute prices in Queensland reduced to below $35.18/MWh in the DIs subsequent to the high priced intervals, when demand decreased and generation capacity was also rebid from higher price bands to lower price bands. Between DIs ending 1745 hrs and 1800 hrs, excess cheaper generation in Queensland caused 5-minute dispatch prices in Queensland to collapse to below -$999.71/MWh.

The high Queensland spot prices for TIs ending 1630 and 1730 hrs were forecast in the predispatch schedules.