

## Electricity Pricing Event Report – Monday 28 August 2017

**Market Outcomes:** The South Australia (SA) Energy spot price reached \$2,653.94/MWh and \$2,027.09/MWh for Trading Intervals (TIs) ending 1830 hrs and 1900 hrs, respectively. The SA Raise Regulation Frequency Control Ancillary Service (FCAS) price reached between \$9,999.99/MWh and \$11,602.22/MWh for all TIs ending between 1100 hrs and 1900 hrs. The SA Lower Regulation FCAS price reached between \$9,999.99/MWh and \$11,018.52/MWh for the same period.

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

### Detailed Analysis:

#### High energy prices

The 5-min Energy dispatch price reached \$13,998.99/MWh and \$10,578.87/MWh for dispatch intervals (DIs) ending 1820 hrs and 1835 hrs, respectively. These high prices can be attributed to a limited supply of lower priced generation capacity in SA, coupled with relatively high demand and constrained interconnectors reaching their export limits toward SA during a planned outage.

The Moorabool – Mortlake PS 500kV line had a planned outage between 1037 hrs and 1836 hrs on 28 August 2017. This outage increased the risk of separation between VIC and SA, and as a result, the associated constraint sets F-V-MLMO, I-VS\_050, S-X\_BC\_CP, and V-MLMO were invoked between DIs ending 1030 hrs and 1900 hrs.

For both high priced DIs, target flows on the Heywood and Murraylink interconnectors were binding at their export limits due to constraint equations VS\_050 (contained within the constraint set I\_VS\_050) and V^SML\_NSWRB\_2, respectively.

Between DIs ending 1815 hrs and 1820 hrs, demand in SA increased by 27 MW to 2,121 MW. During the same period, the combined target flow across the Heywood and Murraylink interconnectors reduced by 8 MW to 193 MW towards SA. At DI ending 1805 hrs, Energy Australia rebid 50 MW of generation capacity to higher priced bands ranging between \$1,365.56/MWh and \$13,998.99/MWh with bid reason: *"1739~A~ADJ BANDS MAT INCR SA SPD PRICE FCST FROM 1815-1830 SL~"*. At DI ending 1820 hrs, lower priced capacity was available but required more than one DI to synchronise (Dry Creek GT unit 2 and Snuggery GT).

Between DIs ending 1830 hrs and 1835 hrs, demand in SA increased by 14 MW to 2,194 MW. During the same period, the combined target flow across the Heywood and Murraylink interconnectors increased by 59 MW to 196 MW towards SA. At DI ending 1835 hrs, Snowy Hydro and Engie collectively rebid 176 MW of generation capacity from bands priced less than or equal to - \$999.9963/MWh to bands priced above or equal to \$13,100.02/MWh.

The spot price in SA decreased to \$300.03/MWh for DI ending 1840 hrs when demand in SA region decreased by 12 MW. For the same DI, Snowy Hydro, Engie and Origin collectively rebid 191 MW of generation capacity from bands priced above or equal to \$13,100.02/MWh to bands priced less than or equal to \$349.9489/MWh.

The high spot prices were forecast in pre-dispatch schedules.

#### High FCAS prices

The 5-minute Raise Regulation FCAS price reached the Market Price Cap (MPC) for DIs ending 1820 hrs and 1835 hrs. Raise Regulation FCAS prices reached between \$9,999.99/MWh and \$13,188.81/MWh for all other DIs ending between 1035 hrs and 1900hrs. For all DIs within the same

period, Lower Regulation FCAS prices reached between \$9,999.99/MWh and \$12,999.99/MWh. These high prices can mainly be attributed to local Regulation FCAS requirements within SA during a planned outage and limited lower priced Regulation FCAS capacity.

The constraint equations F\_S+RREG\_0035 and F\_S+LREG\_0035 contained within the F-V-MLMO constraint set required 35 MW of Raise and Lower Regulation FCAS capacity to be sourced from within SA. These constraint equations were invoked as a result of the planned outage on the Moorabool – Mortlake PS 500kV line.

Raise and Lower Regulation FCAS in SA during the outage period was provided by Torrens Island, Pelican Point PS and Quarantine PS. Lower priced Regulation FCAS was available from Torrens Island for DIs ending 1755 hrs, 1810 hrs, 1830 hrs, 1835 hrs and 1840 hrs but was limited by its FCAS trapezium.

The 5-min Raise and Lower Regulation FCAS prices in SA reduced to \$192.63/MWh and \$20.69/MWh, respectively, for DI ending 1905 hrs. This occurred when local Regulation FCAS was no longer required following the outage constraints being revoked as a result of the completion of the planned outage.

The 30-min high Regulation FCAS prices were forecast in pre-dispatch schedules.