

Electricity Pricing Event Report - Tuesday 18 April 2017

Market Outcomes: The South Australia (SA) Raise and Lower Frequency Control Ancillary Service (FCAS) ranged between \$299.99/MWh and \$13,348.11/MWh for all trading intervals (TIs) between TIs ending 1130 hrs and 2300 hrs.

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

At 2030 hrs on 18 April 2017, the rolling sum of Raise Regulation FCAS prices for the SA region over the previous 2016 dispatch intervals (DIs) exceeded six times the cumulative price threshold (CPT) of \$210,100. As a result, an administered price cap (APC) of \$300/MWh was applied to all FCAS prices in SA for all DIs between DIs ending 2035 hrs on 18 April 2017 and 0400 hrs on 26 April 2017 (MN 58402 and 58448).

Detailed Analysis: The 5-minute Raise Frequency Control Ancillary Service (FCAS) price in South Australia (SA) ranged between \$10,969.69/MWh and the Market Price Cap (MPC) of \$14,000/MWh for 109 dispatch intervals (DIs) between DIs ending 1125 hrs and 2035 hrs. The 5-minute Lower FCAS price in SA ranged between \$301.49/MWh and the MPC for 107 DIs between DIs ending 1125 hrs and 2035 hrs. These high prices can mainly be attributed to rebidding of Regulation FCAS capacity during a period of local Regulation FCAS requirements within SA due to an unplanned outage.

The Moorabool – Mortlake 500 kV line had an unplanned outage between 1106 hrs and 2259 hrs on 18 April 2017 due to a faulty capacitive voltage transformer (CVT) at the Moorabool end. This outage increased the risk of separation between SA and Victoria, and the associated outage constraint sets F-V-MLMO, S-X_BC_CP and V-MLMO were invoked between 1120 hrs and 2305 hrs. The constraint equations F_S+LREG_0035 and F_S+RREG_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.

Raise and Lower Regulation FCAS in SA during the outage period was provided by Torrens Island A and B, Osborne PS and Pelican Point PS.

Following the local Regulation FCAS requirement within SA being invoked, for all DIs between DIs ending 1125 and 1140 hrs, Regulation FCAS prices reached between \$13,009.99/MWh and the MPC. Cheaper priced Regulation FCAS capacity was available but was stranded (Torrens Island A unit 2 & 4 and Osborne PS).

For DI ending 1135 hrs, Origin Energy rebid 9 MW of Regulation FCAS capacity which was previously unavailable to band priced at the Market Price Floor (MPF) of \$0/MWh with the bid reason "1123A ENERGY/FCAS TRADEOFF SL". This cheaper priced capacity was stranded for DIs ending 1135 hrs and 1140 hrs. For DIs ending 1145 hrs and 1150 hrs, there was no Regulation FCAS capacity stranded, resulting in the Regulation FCAS prices dropping to between \$299/MWh and \$427.11/MWh.

For DI ending 1155 hrs, AGL rebid 3 MW of Regulation FCAS capacity from bands priced at \$298.58/MWh and \$299.57/MWh to bands priced at \$12,982.81/MWh and above with the bid reason "1132~A~060 UNFCAS NETWORK CONSTRAINT~F-V-MLMO". This resulted in Raise Regulation FCAS prices reaching between \$10,969.69/MWh and the MPC for all DIs between DIs ending 1155 hrs and 1830 hrs, and Lower Regulation FCAS prices reaching between \$13,000.99/MWh and the MPC for all DIs between DIs ending 1155 hrs and 1830 hrs.

The 5-minute Lower Regulation FCAS price in SA reduced to \$299.99/MWh for DI ending 1835 hrs when AGL shifted 20 MW of Lower Regulation FCAS capacity from band priced at \$13,980.43/MWh to band priced at \$299.57.

The 5-minute Raise Regulation FCAS price in SA reduced to \$300/MWh for DI ending 2035 hrs when the APC was applied to all FCAS prices in SA.

The 5-minute Regulation FCAS prices in SA remained at \$299.99/MWh or \$300/MWh for all DIs until DI ending 2305 hrs, when the local SA Regulation FCAS requirement had ended.

The high 30-minute Raise and Lower Regulation 30-min FCAS prices for South Australia were not forecast in the pre-dispatch schedules as they were due to rebidding of capacity.