

## Electricity Pricing Event Report – 13 October 2017 and 14 October 2017

**Market Outcomes:** The South Australia (SA) Raise and Lower Regulation Frequency Control Ancillary Service (FCAS) prices reached between \$9,999.99/MWh and \$10,699.99/MWh for 11 and 13 trading intervals (TIs), respectively, between TIs ending 0730 hrs and 1330 hrs on the 13 October 2017. The SA Raise and Lower Regulation FCAS prices reached \$9,499.99/MWh for 6 and 4 TIs, respectively, between TIs ending 0630 hrs and 0900 hrs on the 14 October 2017.

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

**Detailed Analysis:** The 5-minute(min) Raise and Lower Regulation FCAS prices in SA reached between \$9,999.99/MWh and the Market Price Cap (MPC) of \$14,200/MWh for 66 and 78 dispatch intervals (DIs), respectively, between DIs ending 0705 hrs and 1330 hrs on the 13 October 2017. The 5-min Raise and Lower Regulation FCAS price reached \$9,499.99/MWh or \$9,500/MWh for 36 and 24 DIs, respectively, between DIs ending 0605 hrs and 0900 hrs on the 14 October 2017. These high prices can mainly be attributed to increased local Regulation FCAS requirements within SA during a planned outage of Heywood No.1 500 kV bus and limited availability of cheaply priced Regulation FCAS capacity.

The Heywood No. 1 500kV bus line had a planned outage between 0713 hrs and 1526 hrs on 13 October 2017, and between 0611 hrs and 1530 hrs on 14 October 2017. These outages increased the risk of separation between SA and Victoria, and the associated outage constraint sets F-I-HYSE, I-VS\_050, S-X\_BC\_CP, V-HYTX\_M12 and V-HY\_500BUS were invoked during the planned outage times above. The constraint equations F\_S+RREG\_0035 and F\_S+LREG\_0035 contained within the F-I-HYSE constraint set required 35 MW of Raise and Lower Regulation FCAS capacity to be sourced from within the SA region.

Raise and Lower Regulation FCAS in SA during the outage on 13 October 2017 was provided by Osborne PS, Pelican Point PS and Torrens Island B. Raise and Lower Regulation FCAS in SA during the outage on 14 October 2017 was provided by Quarantine PS unit 5, Pelican Point PS and Torrens Island B.

The 5-min Raise Regulation FCAS price in SA reduced to \$48/MWh at DI ending 1235 hrs on 13 October 2017 when Torrens Island B units 1, 3 & 4 rebid 93 MW from higher priced bands to lower priced bands with the reason: *1603~A~020 AEMO MARKET NOTICE~20 UPDATE PLANNED OUTAGE OF HEYWOOD NO. 1 500KV BUSBAR IN VIC REGION*. The 5-min Lower Regulation FCAS price in SA reduced to \$49.22/MWh at DI ending 1335 hrs on 13 October 2017 when Torrens Island B units 1, 3 & 4 rebid 63 MW from higher priced bands to lower priced bands with the reason: *1603~A~020 AEMO MARKET NOTICE~20 UPDATE PLANNED OUTAGE OF HEYWOOD NO. 1 500KV BUSBAR IN VIC REGION*.

The 5-min Raise Regulation FCAS price in SA reduced to \$48/MWh at DI ending 0905 hrs on 14 October 2017 when Torrens Island B units 3 & 4 rebid 68 MW from higher priced bands to lower priced bands with the reason: *1231~F~90 PD PRICE F/CAST HIGHER THAN AGL EST~D+1*. The 5-min Lower Regulation FCAS price in SA reduced to \$48/MWh at DI ending 0805 hrs on 14 October 2017 when Torrens Island B units 3 & 4 rebid 38 MW from higher priced bands to lower priced bands with the reason: *1231~F~90 PD PRICE F/CAST HIGHER THAN AGL EST~D+1*.

The high 30-min Raise and lower Regulation FCAS prices in SA were forecast in pre-dispatch schedules as the outage on the Heywood No. 1 500kV bus line was planned.