

Electricity Pricing Event Report – Saturday 21 May 2016

Market Outcomes: The Mainland (Queensland, New South Wales, Victoria and South Australia) had high Delayed Raise Frequency Control Ancillary Service (FCAS) and Raise Regulation FCAS prices, ranging between \$49.85/MWh and \$112.43/MWh for 3 trading intervals (TIs) between TIs ending 1730 hrs and 1830 hrs. The Fast Raise FCAS price in the Mainland ranged between \$28.78/MWh and \$79.94/MWh for the same intervals.

FCAS and Energy prices in Tasmania were not affected by this event. Energy prices for the Mainland were elevated but did not reach the price threshold for reporting purposes.

Detailed Analysis: The 5-minute Delayed Raise and Raise Regulation FCAS prices in the Mainland ranged between \$49.20/MWh and \$197.58/MWh between dispatch intervals (DIs) ending 1705 hrs and 1815 hrs. The 5-minute Fast Raise FCAS prices in the Mainland ranged between \$34.20/MWh and \$99.46/MWh for the same DIs. These high FCAS prices can be mainly attributed to the withdrawal and rebidding of generation capacity from the FCAS markets, steep supply curves in the FCAS markets and increased demand during the afternoon peak period. In addition, FCAS support from Tasmania was unavailable due to the outage of the Basslink interconnector from 20 December 2015.

Since early April 2016, there has been limited availability of cheaper priced Raise Regulation, Delayed Raise and Fast Raise FCAS capacity across the Mainland. Several generating units that typically provide cheaper priced Raise Services were unavailable for extended periods. These include, Bayswater PS Unit 2, Vales Point PS Unit 6, Gladstone PS Unit 2, Torrens Island PS A Units 1 – 4 and Torrens Island PS B Unit 2.

For DI ending 1705, 240 MW of Delayed Raise (Tumut 3 PS) FCAS capacity was withdrawn by Snowy Hydro with the reason '16:02 A NSW: 30MPD PRICE \$195.07 HGR THN 30MPD 16:50@15:32'.

For DI ending 1735 hrs, Delta shifted 15 MW of Delayed Raise FCAS capacity from bands priced at or below \$30.37/MWh to bands priced at \$101.25/MWh. For the same DI, Delta shifted 20 MW of Raise Regulation FCAS capacity from bands priced at or below \$15.19/MWh to bands priced at \$13,971.85/MWh.

A number of units providing cheaper priced FCAS in the Mainland were dispatched close to or at their maximum capacity in the energy market, which effectively reduced their Raise FCAS availability.

Between DIs ending 1705 hrs and 1800 hrs, Mainland demand increased by 1,278MW. Thus, additional generation capacity was dispatched in the energy market, which further reduced the Fast Raise, Delayed Raise and Raise Regulation availability during this period. For the high priced DIs, 5-minute energy prices were elevated up to \$299.80/MWh across the Mainland regions. The energy prices impacted the FCAS prices, as the Raise FCAS availability was adjusted against the energy dispatch. In addition, Raise Regulation was dispatched to substitute for expensive Delayed Raise.

The Mainland FCAS prices for Fast Raise, Delayed Raise and Raise Regulation Services reduced to \$30.00/MWh, \$30.00/MWh and \$20.80/MWh, respectively, for DI ending 1820 hrs, when the Mainland demand reduced by 92 MW and Fast Raise, Delayed Raise and Raise Regulation availability increased.

The high 30-minute Mainland FCAS prices were forecast in the pre-dispatch schedules.

Version Control

VER	DATE	REVISION DESCRIPTION	AUTHOR	CHECKED	RESPONSIBLE MANAGER	APPROVED
v1	24/05/16	Original Document	Jennie Lu	Eloise Taylor Basilisa Choi	Yvonne Tan	