

Electricity Pricing Event Report – Tuesday 24 May 2016

Market Outcomes: The Mainland (Queensland, New South Wales, Victoria and South Australia) had high Delayed Raise and Raise Regulation Frequency Control Ancillary Service (FCAS) prices, reaching \$59.07/MWh and \$69.83/MWh, respectively, for trading interval (TI) ending 0830 hrs.

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 were both \$254.50/MWh for dispatch interval (DI) ending 0810 hrs. These high FCAS prices can be mainly attributed to withdrawal of generation capacity from the Delayed Raise and Raise Regulation FCAS markets, limited availability of cheaper priced FCAS capacity, increased demand during the morning peak period and steep supply curves in the FCAS markets. 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 and Delayed Raise FCAS capacity across the Mainland. Several generating units that typically provide cheaper priced Raise Regulation and Delayed Raise FCAS capacity were unavailable for extended periods. These include, Bayswater PS Unit 2, Vales Point PS Unit 6, Torrens Island PS A Units 1 – 4 and Torrens Island PS B Unit 2.

For DI ending 0705 hrs, 480 MW of Delayed Raise FCAS capacity were withdrawn by Snowy Hydro (Tumut PS) and CS Energy (Wivenhoe PS No.2 Pump). The reasons submitted were '15:02:P UPDATE AVAIL FOR CHANGE TO OUTAGE PLAN/PLANT CONDITIONS' and '1434A DAILY OFFER', respectively.

For DI ending 0805 hrs, Eraring rebid 10 MW of Raise Regulation capacity from \$0.01/MWh to \$14,001.61/MWh.

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

During the peak morning demand, between DIs ending 0805 hrs and 0810 hrs, Mainland total demand increased by 56 MW. Thus, additional generation capacity was dispatched in the energy market, further reducing the availability in the Delayed Raise and Raise Regulation markets for that period. For DI ending 0810 hrs, 5-minute energy prices were elevated to between \$295.20/MWh and \$351.09/MWh across the Mainland regions. This energy price 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 Raise Regulation and Delayed Raise price of \$254.50/MWh was the result of the co-optimisation between Energy and FCAS markets.

The Mainland FCAS prices for Delayed Raise and Raise Regulation Services reduced to \$29.95/MWh and \$30.80/MWh, respectively, for DI ending 0815 hrs, when Mainland demand decreased by 52MW and availability of Delayed Raise capacity increased, mainly from Wivenhoe PS Unit 2. Delayed Raise availability from Wivenhoe PS Unit 2 increased from 0MW to 210MW when the unit's dispatch target was reduced from 250MW to 40MW due to rebidding in the energy market (rebidding effective in DI ending 0810 hrs) and the unit was no longer stranded from DI ending 0815 hrs.

The high 30-minute Mainland FCAS price was forecast in the latest pre-dispatch schedules.

Version Control

VER	DATE	REVISION DESCRIPTION	AUTHOR	CHECKED	RESPONSIBLE MANAGER	APPROVED
v1	25/05/16	Original Document	Eloise Taylor	Ellise Harmer Basilisa Choi	Yvonne Tan	