

Electricity Pricing Event Report – Monday, 31 October 2016*

Market Outcomes: Spot price in Tasmania reached \$894.35/MWh for trading interval (TI) ending 0930 hrs.

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

Detailed Analysis: The 5-Minute dispatch price in Tasmania reached \$5,274.18/MWh for dispatch interval (DI) ending 0930 hrs. This high price can be mainly attributed to the following:

- Planned outage of the Palmerston - Hadspen no.1 220 kV line scheduled between 0805 hrs and 1602 hrs on 31 October 2016 and the Tungatinah – New Norfolk – Meadowbank no. 1 110 kV line scheduled between 0709 hrs on 31 October to 1038 hrs on 04 November 2016. Constraint sets T-HAPM_220 and T-TU_MB_NN1 were invoked for the duration of the outages, respectively.
- During the high price interval, target flow on the Basslink interconnector was limited to 93 MW towards Tasmania. The target flow violated the limit of 209.56 MW towards Victoria set by the transient stability constraint equation T::T_HA_GT_PM_4. This constraint equation prevents TAS North to South oscillations following fault and trip of Palmerston - Sheffield 220 kV line during the outage of Hadspen - George Town or Hadspen - Palmerston 220 kV lines.
- For DI ending 0930 hrs, a number of generators (Cethana, Fisher, Mackintosh, Reece unit 2, Tribute, Lemonthyme and Wilmot) were limited by their ramp down rates.
- During this DI, generation from Meadowbank was constrained off by the thermal constraint equation T>T_TUMBNN1_110_1. This constraint equation prevents overload on the Meadowbank Tee 2 - New Norfolk 110kV line for the trip of Tungatinah - New Norfolk No.3 110kV line during the outage of Tungatinah - Meadowbank - New Norfolk No.1 110kV line.
- Lower priced generation was available but was limited by ramping rates (Gordon PS, Poatina units 1 - 6) or required more than one DI to synchronise (Bell Bay Three unit 1 and Tamar Valley OCGT).

The 5-minute dispatch price reduced to \$96.55/MWh for DI ending 0935 hrs, when:

- The ramp rates increased, resulting in 266 MW of additional generation from Gordon PS, Poatina units 1 - 6 became available and constraint equation T::T_HA_GT_PM_4 was no longer violating.

** A summary was prepared as the maximum daily spot price was between \$500/MWh and \$2,000/MWh.*

Version Control

VER	DATE	REVISION DESCRIPTION	AUTHOR	CHECKED	RESPONSIBLE MANAGER	APPROVED
v1	15/12/2016	Original Document	Manisha Senadeera	Jennie Lu	Laura Walsh	