

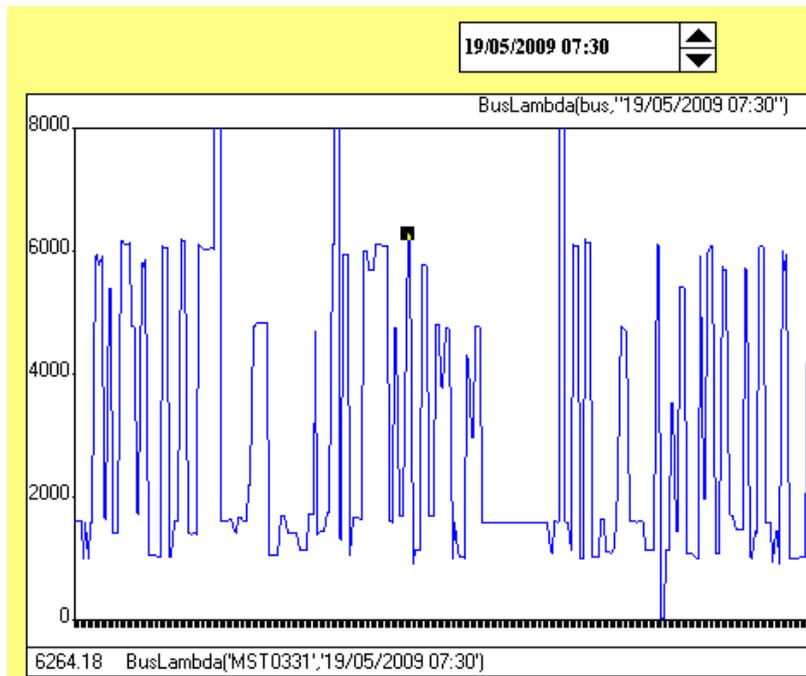
To	Tim Street, Laurie Counsell – Electricity Commission
From	Ashley Milkop and Daniel Pringle – M-co
Date	27 May 2009
Subject	Market prices for trading period 16, on 19th May 2009

1. An Undesirable Trading Situation (UTS) claim has been lodged for trading period 16 (starting 07:30) for 19 May 2009.
2. The pricing manager published provisional prices for 19 May 2009 on the morning of 20 May due to a metering situation.
3. The metering situation was resolved by revised metering data which also led to the emergence of a high spring washer price situation (HSWPS) for trading period 16.
4. HSWPS relaxation was applied by the system operator, and would-be final prices were calculated. Prices exceeded \$1000 /MWh for most of the North Island, with a maximum of \$6264.18 /MWh at MST0331.
5. The lowest North Island price was \$0.02 /MWh at two nodes with the next lowest North Island price \$911 /MWh. There were no negative prices.
6. It should be noted that, on 19 May, the system operator issued notices for zero HVDC capability between 02:52 and 16:00 hours and for insufficient transmission capability in the Wellington region from 07:00 to 11:00 hours.
7. The EGR deadline for the publication of final prices was 18:00 Friday 22 May. However, on 21 May the Electricity Commission Board ordered a delay in the publication of these prices until further notice.
8. On the afternoon of 21 May, the pricing manager advised market participants by email of the order to delay publication of final prices, and that an undesirable trading situation (UTS) claim had been lodged.
9. This document addresses prices for the trading period 16.

Prices for trading period 16, on 19 May 2009

10. There was a metering situation in the first pricing solve for which a notice was issued. The metering situation was not resolved by 10:00, so provisional prices were published.
11. Revised metering, uploaded at 11:22, resolved the metering situation but led to the emergence of a high spring washer situation in trading period 16 for which a notice was issued.
12. The system operator responded to the HSWPS in accordance with the Rules. The binding constraint BPE_TKU_1_W_O_4Aof5_z was relaxed by 1% (from 335 to 338.35 MW) for trading period 16.
13. Following the HSWPS relaxation, would-be final prices were calculated on 21 May. High spring washer prices persisted in these prices, but the HSWPS relaxation can be applied only once for a given trading period.

14. In these would-be final prices for trading period 16, the highest price is \$6264 /MWh at MST0331, and the price exceeded \$1000 / MWh at 298 nodes. The highest cleared offer was at 'PARTY A' at \$1000 /MWh.
15. The lowest North Island nodal price was \$0.02 /MWh at 'PARTY B' with the next lowest North Island price \$911 /MWh at 'PARTY C'.
16. There were no negative prices, and therefore no generation at nodes with negative prices.
17. The screen shot below from the pricing solver shows North Island prices:



Verification of would-be final price at MST0331, trading period 16

18. A marginal load analysis confirms that the would-be final price at MST0331 for trading period 16 is indeed the cost to supply a nominal load increase of 1 MW at this node.
19. As the system was highly sensitive to additional load, a modelled load increase of 1 kW was used. This case was then scaled to show the results of the nominal case of a +1 MW load increase.
20. The increase in system cost equalled the node price, confirming that the node price was a legitimate marginal price.
21. The theoretical 1 MW demand increase at MST0331 led to a system cost increase of \$6264.18. This is the node price in the would-be final prices, and comprises:
 - a. \$6264.18 for energy; and

- b. \$ 0.00 for reserve.
22. The theoretical 1 MW increase was modelled by an energy output increase of 6.3 MW at 'PARTY B' and an energy output decrease of 5.2 MW at 'PARTY D'.
23. The energy increase at 'PARTY B' cost \$6300 (for \$1000 price). The energy decrease at 'PARTY D' saved \$0.104 (for \$0.02 price).
24. There were no changes in modelled reserves.
25. Summing these components gives a net marginal cost of supplying the theoretical 1MW to MST0331 of \$6300.00 - \$0.10 = \$6299.90.
26. The 0.2 % difference between this figure and the calculated node price (\$6264.18) is due to rounding and differencing small numbers in the +1kW load increase analysis.
27. These numbers are summarized in the table on the next page:

Time	Island	Market Node	Type	Modelled change in cleared amount (MW)	Node Price \$/MWh	Cost (saving)
07:30	NI	'PARTY B '	ENOF	6.3	1000	\$6,300.00
07:30	NI	'PARTY D'	ENOF	-5.2	0.02	-\$0.10
	Total		Energy			\$6,299.90
	Total		Reserve			\$0.00
18:00	Total					\$6,299.90

Conclusion

28. The pricing manager is satisfied that the would-be final prices 19 May 2009, as calculated on 21 May 2009, are correct to the extent that:
- The pricing process was performed correctly;
 - Action undertaken by system operator to resolve the HSWP situation was correct and in keeping with the Rules; and
 - To the best of our knowledge, the inputs provided under the Rules by other parties which are required to perform the pricing process were present and correct.