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Prepared at Request of Counsel

Memo

To: Gillian Blythe, Meridian Energy Limited
Date: 19 May 2011
From: Lewis Evans
Subject: Comment on the Electricity Authority's UTA Draft Decision

1. You have asked me to briefly comment on the 6 May, Draft Decision of the Electricity Authority (EA) regarding its finding of an UTS on the 26th of March 2011, and in particular, the Report from Castalia dated 13 May 2011 (Castalia) which is attached to the submission of Genesis Energy Limited (Genesis) on the UTS Draft Decision.

2. The EA's Draft Decision finds that

    a. Genesis Energy Limited (Genesis) offered in extremely high-priced generation at a time when the market had known for at least three months that there was a planned network outage that conferred, or had a very high likelihood of conferring, significant market power on Genesis;
    b. Genesis offered in at prices that were roughly twice the level of the higher prices that Genesis has customarily offered in the past (at s. 108 of the Decision the EA reports that Genesis has often offered in at approximately $10,000/MWh and that there had been just 1 trading period between 1 January 2007 and 1 October 2010 where Genesis offer had exceeded $15,000/MWh.)[1].

    and that, taken together the event constituted an UTS. I agree with this result. It is the *coincidence* of a planned outage and the unusual and extremely high offer prices which is the critical feature of this event and I term it a "coincident" event. For the reasons given below the "coincident" event need not be a squeeze as is defined in commodity markets for an UTS, because electricity is simply not like other commodities.

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[1] I have not seen this price data to March 2011.

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3. The Castalia, and to a considerable extent the EA, argue that market participants – retailers and generators and any other direct participants in the spot market – along with those entities that are directly exposed to spot market prices should recognise the risk of the spot market and be responsible for the management of their risk in that market. This position is unexceptional, but the implications of coincidental bids – i.e. planned outages and associated exceptionally high offer prices - should be assessed from a market performance point of view that is socially sanctioned. This I would argue is dynamic efficiency where that term admits the institutional arrangements of the market. The Castalia report takes a particularly narrow view of the applicability of an UTS (Castalia (s.14)).

4. The Castalia report covers the role of price volatility, including price spikes, in electricity markets and comments on the consequent need for electricity suppliers and demanders to manage risk. It mentions risk management instruments that are useful in this respect. The fact that price volatility arises from the volatility in demand and supply factors that are intrinsic to electricity markets is mentioned, and I agree with it. The report suggests that price spikes are necessary to support peaking generation, which I also agree with. The report does not deal with two matters: strategic uncertainty, the sustainability of an electricity market that has higher prices than are needed to manage uncertainties of nature – fuel supply, weather conditions etc. – and that strategic pricing against planned outages is likely to be an inefficient peaking plant support mechanism.

5. Before considering these issues I note that volatility in spot prices, including uncapped price spikes, is an efficient way of spreading the effect of nature – variations in hydro-reservoirs and gas supplies – among all those that supply and demand electricity and related products.[2] It also helps signal investment needs for supply side and demand side plant that enable demand to be met economically in all the relevant situations of nature. Open positions in the spot market, *vs* full hedging, are socially beneficial, but the associated risk needs to be assigned and managed. For the spot market to deliver these resource management benefits it should be workably competitive.

6. The Castalia report does not consider the long-term performance of the market. In particular, it doesn't sufficiently consider:
   a. that hedge prices and locations and coverage are simultaneously determined with *expectations* of the future spot price; and that looking forward, even with potential

[2] The effect of the New Zealand electricity market is wider than electricity. This market prices water in many catchments in New Zealand: and it is desirable that prices reflect the value of water in electricity production and other uses as though there were a workably competitive market.

Code changes, the coincident event will very likely raise expected spot and hedge prices and affect the coverage and location of hedges, and local retail competition.

b. that short term hedge products offered on the expectation of potential coincident events will have the anticipated event pay-off incorporated in their prices. The terms of hedges will reflect market power. [3] Ultimately retail contract prices will reflect these changes.

c. that some direct exposure in the spot market is socially efficient and, increased hedge cover engendered by strategic uncertainty may not be desirable.

d. that the reputation and utility of the electricity market in society will suffer from widespread knowledge that high prices are likely to occur simply as a result of strategic behaviour against planned network outages.

7. The role of an UTS in electricity markets is somewhat different to that of other commodity markets (see my 28 April memorandum). For example, the absence of economic storage means that price characteristics and the link between forward and spot prices differ from that of other commodity markets.[4] Another difference is the ubiquity of electricity consumption, which renders this market of widespread direct interest from a political-economy perspective (in contrast Castalia (s.13-18) take a narrow view of the market).

8. These differences mean that that the EA is, pursuant to the terms of an UTS, entitled to not treat the event as one-off, and to take a view about its implications for the future performance of the market. It would be a concern for electricity market reputation and performance if as a result of the UTS Draft decision not being confirmed, non-market participants assume that there has been an increase in strategic risk. It would likely have significant ramifications: for example, it may render it much more difficult to determine, in dry years, that the high prices are due to scarcity and not strategic moves.

9. The sole argument that has been alluded to as having the potential for the event to improve dynamic efficiency of the market is that certain peaking plant is not economically viable without price spikes (Genesis Submissions. subsection. *Huntly Power Station*) and that the absence of this plant would reduce the efficiency of the market. In addition to the comments of my memorandum of 28 April 2011 to you on this subject; I note that coincident events are likely to be an inefficient way to sustain peaking plant where increased revenue of the event spills over to other regions. Peaking plant that cannot cover its maintenance and variable costs without coincident price spikes is most unlikely to be economic.

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3 Although, once set, hedges will generally mitigate market power.

4 One illustration of this point is that standard inter-temporal financial pricing models for commodities are not directly translatable to electricity prices.

10. Castalia (s.60) states that a squeeze requires the exercise of market power and market manipulation. In the case of the coincident event market manipulation was not required, and on all the evidence Genesis exercised market power.

11. Castalia (s. 85, 98) concludes that finding an UTS on this event will inhibit the development of risk awareness and risk products that will benefit the broader electricity market. It is far from clear that it will have this effect: strategic and risk of nature were significant prior to March 26 2011 and will remain so if the Draft Decision UTS is confirmed. Further, increased hedging on the basis of increased strategic risk in the electricity may yield an undesirable balance of hedged and unhedged electrical energy, for the reasons given above.

12. The EA argues that market price forecasts were inadequate. I cannot evaluate this, but if it were the case *and* if participants were not aware of it then fault arising from it is attributable to the market. On the submission of Genesis (s. 52-56), the forecasts were in accord with properties of forecasts that were well known in the market, in which circumstance it would be hard to argue that the market failed in this respect.

13. The EA Draft Decision, in essence, suggests that Genesis did not engage in misleading or deceptive conduct in placing its offers for 26 March. Nevertheless, given that there had been no “coincident” offers previously, there is no doubt that this event has increased the strategic uncertainty inherent in the New Zealand electricity market, particularly for those on the demand side.

14. Re-determination of market prices is a natural response to an UTS. The EA proposal is an approach that might approximately preserve the outage situation as it was perceived leading up to dispatch; but it does seem to create an option for the future: bid $20,000 and if dispatched under a UTS receive either $20,000 or some estimate of long run marginal cost anyway. An alternative would be to calculate prices as if the network had not been constrained: although this would not mimic the situation where market participants would have bid and offered without the planned outage.

15. An UTS is a very serious event for the market. Its occurrence will have affected parties that are *estopped* from remedy as well as market participants. The remedy will have various effects on various market participants; but it is important that some remedy is adopted even if it is costly to market participants.

16. Determining that an UTS exists requires judgement: indeed this is so by the very nature and role of the UTS provision (see my 28 April memorandum). Finding an UTS will not set a hard line for its future determination, and hence uncertainty about the possibility of a UTS will remain for market participants. That it is an uncertainty to be managed by them should not detract from the market.

Lewis Evans