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13 May 2011

Carl Hansen
Chief Executive
Electricity Authority
2 Hunter Street
WELLINGTON

By hand and by email: submissions@ea.govt.nz

Dear Mr Hansen

Draft Decision on UTS Claims

Please find attached Genesis Energy's detailed submission and supporting expert economic evidence responding to the Electricity Authority's ("**the Authority**") draft decision regarding an alleged undesirable trading situation ("**UTS**") on 26 March 2011 ("**the draft decision**").

This letter amplifies some of the issues addressed in our submission and makes some broader observations about the effect of the draft decision on the market and on the Authority's market development objectives.

Events of 26 March 2011

To the uninformed observer, the events of 26 March 2011 may appear to tell a story of a market failing to function in a manner consistent with the long-term interests of consumers. The reality, as shown by our submission, is that the events of the day convey a broader story about risk management in the New Zealand electricity market. The market was functioning as it should and has continued to function well since.

Our concern is that the Authority's draft decision threatens to introduce unprecedented regulatory uncertainty, to reward poor risk management while penalising good risk management, to undermine the Authority's own market development objectives and to harm the long term interests of consumers by impairing market efficiency, undermining risk management incentives and deterring reliable supply.

I would like to highlight two points in particular in this context:

- First, there have been claims made that allowing the prices established on 26 March 2011 to stand will inevitably lead to an increase in retail prices. It is important that our customers understand that this is not the case. Retailers that poorly manage their wholesale market risks and suffer financial harm as a result are not automatically entitled to recover their losses from their customers. Customers have a choice of retailer. We understand this and respect the need to price competitively into the retail market; and

- secondly, a large number of parties with spot exposure lodged UTS claims with the Authority. Most of these parties are not wholesale market participants, but accept a degree of contractual price risk in return for avoiding the insurance premium that a retailer or hedge provider naturally charges, thereby foregoing price certainty. Analysis in our submission indicates that, when considered over a relevant timeframe, these parties will have paid less overall for their electricity than parties who have hedged through fixed price contracts. This holds even if traded prices on 26 March 2011 are allowed to stand. The difficulty for these parties is the cash flow uncertainty and volatility that comes with spot exposure, not the cost.

The draft decision encourages parties to capitalise on the profits that can be made through spot exposure, while socialising the costs when their risk management decisions have adverse results.

As a responsible retailer, Genesis Energy has long discouraged consumers from accepting spot price risk unless they are absolutely certain that they understand the associated risks.

Uncertain Precedent Effect

The Authority's draft decision, if confirmed, appears to alter the ground rules for all market participants in a significant but uncertain way. The draft decision lowers the bar for declaring a UTS and invites increased reliance on this mechanism as a primary risk management tool.

We expect that (if confirmed) the decision may lead to more frequent UTS claims as parties attempt to establish where the new threshold for regulatory intervention in pricing lies. Parties' views on this threshold will also determine their appetite for risk management products, and this in turn affects the willingness of the providers of system reliability to remain in the market. Genesis

Energy is one such provider, along with many other generators and parties on the demand side with the flexibility to monitor prices and adjust their consumption.

Continued Orderly Trading

Despite the uncertainty regarding 26 March 2011, the market has continued to trade in an orderly and well-functioning manner while the Authority has carried out its deliberations. The week following 26 March 2011 saw rational and prudent hedging activity and demand-side management and, as a direct consequence, benign spot market outcomes.

We note that tomorrow (14 May 2011) will bring similar trading conditions to those experienced on 26 March and 2 April 2011, with similar transmission and thermal outages affecting the upper North Island. Unlike 26 March, and similar to 2 April, many parties have reasonably priced hedges in place to manage the risks they face tomorrow. We cannot predict the pricing outcome that will eventuate tomorrow, but we can observe that the electricity market appears to be functioning successfully and in an orderly manner.

There will also be an HVDC outage the following weekend and again parties appear to be managing their risks prudently. We are at a loss as to how the Authority can reasonably draw a link between the market activity we are observing and the claim that orderly trading is threatened by the events of 26 March 2011.

Huntly Power Station

The draft decision touches on a methodology for benchmarking the costs of Units 1 to 4 at Genesis Energy's Huntly Power Station. I wish to ensure that the draft decision does not draw people to a misleading view of the relationship between the prices that cleared in the market on 26 March 2011 and the asset management decisions that Genesis Energy faces in relation to the Huntly Power Station.

It is important to understand that we do not treat Units 1 to 4 as a single asset. Each unit has avoidable fixed costs and the reliability and condition of each unit varies. Each unit is committed independently and units are rotated through their maintenance outages to maintain an overall availability profile. Given these asset management realities, a relevant consideration in determining offer prices is the utilisation and avoidable costs of the last available unit.

Commercial justification for maintaining availability of the last available or marginal unit is extremely difficult to sustain on the prospect of spot market revenues alone and is not supported by hedge market or retail commitments. We consider

that the marginal unit has value in terms of overall system resilience, particularly for infrequent trading periods where upper North Island capacity is tight and for seasonal fuel constraints. This view appears to be supported by the System Operator and the Authority.[1] Notwithstanding this, for business planning and asset management purposes, the prudent assumption is that the marginal unit has zero projected utilisation.

The draft decision suggests an implicit spot market price cap and dampening of hedging appetite that appears certain to strengthen our view that maintaining full availability of the last available Huntly unit is not commercially justified at this time.

Proposed Remedy

If the Authority finds, as we consider it should, that there was no UTS then interim prices will become final and trades will be settled and cleared as normal. Without prejudice to its position that there was no UTS, and that the Authority should not set the price at which trades should be completed, Genesis Energy notes that if the Authority maintains that there is a UTS, then it needs to address the question of remedy.

We are concerned that the proposed remedy of resetting prices will have unpredictable and arbitrary effects on the financial outcomes for individual market participants. Participants, including generator-retailers and, we expect, more sophisticated consumers, will have reacted to conditions on 26 March 2011 as they developed so as to manage their overall market exposure. For example, the Authority's draft decision describes how Mighty River Power and Genesis Energy actively and legitimately adjusted their offers in this way on the day.

If the Authority places a static set of offers from the prior day into the market clearing engine, then this process will not deliver financial outcomes that resemble what would have happened on the day with a lower set of offers in the market. There is also the fact that some contracts with settlement values indexed to market outcomes will already have been settled.

Of course, the immediate and one-off impacts of the proposed remedy are one thing. Our bigger concern, as mentioned earlier, is the ongoing effect of a significantly lower threshold for establishing a UTS and the uncertainty all participants will face regarding whether or not there is now an implicit price cap.

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[1] Refer *Submission to the Electricity Authority on Capacity Offer for Whirinaki*, Transpower New Zealand Limited, March 2011 and *Capacity offer for Whirinaki: Summary of submissions and Authority response*, Electricity Authority, May 2011.

Part 4 of our submission provides further comments on the proposed remedy.

Market Development Objectives

Finally, I wish to reiterate and emphasise a point that the Authority alluded to on 1 April 2011 when it issued a UTS update that drew attention to the Authority's own market development initiatives. The point is that establishing price caps is a significant market change that needs to be approached using a robust regulatory process and within the context of overall market development.

The key question from a market development point of view, which has been before the Authority and its predecessors for some time, is how to ensure that the reliability that consumers demand is delivered in the most efficient and pro-competitive manner. As the Authority pointed out in its initial response to the UTS claims, there is a substantial market development programme flowing out of the 2009 Ministerial Review of Electricity Market Performance designed to address precisely this issue. This ranges from core market design improvements such as scarcity pricing and improved locational price risk mechanisms, through to improved governance of ongoing continuous market development.

If the Authority is now forming a view that price caps should be a component of this market improvement agenda, then this is properly dealt with through the Authority's robust and well-designed Code amendment processes. We note that the concept of price caps is already a matter that the Authority has before it as part of its scarcity pricing work. The Authority released a consultation paper on this matter on 29 March 2011 that explored the issue of price caps and settled on a view that price caps carry a significant risk of unintended consequences. This view received support from a number of market participants and will properly be considered further as the scarcity pricing Code development work progresses.

For the purposes of deciding whether to declare a UTS, the primary concern of the Authority should be whether market participants can be confident that the Authority will uphold the integrity of the market rules.

If you would like to discuss any of these matters further, please contact Malcolm Alexander, General Manager Corporate Affairs, on (04) 495 6353.

Yours sincerely

Albert Brantley
Chief Executive

genesis ENERGY

Submission by Genesis Power Limited

Trading as Genesis Energy

ON

Draft Decision on UTS Claims for 26 March 2011

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Draft Decision on UTS Claims for 26 March 2011

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Contents

1. Executive Summary

1. The preliminary finding that an undesirable trading situation ("**UTS**") exists in relation to certain trading periods on 26 March 2011 is unprecedented. If finalised, we consider it would be based on an error of law, for the reasons explained in this submission.

2. At the heart of the Authority's proposed decision is an improper use of the UTS provisions in the Electricity Industry Participation Code ("**Code**") to prevent the recurrence of normal and legitimate market activity. This would also establish a new regulatory precedent that is likely to have significant adverse consequences for market efficiency, contrary to the Authority's statutory objective.

The legal test for a UTS is not met

3. To find that a UTS has occurred, there must be evidence demonstrating that the relevant legal test is met. In the absence of such evidence, as a matter of law, the Authority should not conclude that a UTS exists.

4. We consider that the draft decision has not and cannot properly establish that the core elements of the legal test are satisfied. Namely, there is not any evidence that there was a contingency or event:

   - that threatens, or may threaten, trading on the wholesale market for electricity; and

   - that would, or would be likely to, preclude the maintenance of orderly trading or proper settlement of trades.

5. The challenge in meeting this test is that it is well established that high prices (even extremely high prices) alone are not sufficient to establish a UTS. Further, Genesis Energy has not engaged in any, manipulative, misleading, unlawful or undesirable conduct or practice.

6. In those circumstances, the draft decision seeks to establish that entirely legitimate market activity is nevertheless a UTS. The result is that the Authority makes a number of errors in its reasoning, as follows:

- there were no demand forecast "errors" that prevented participants in the wholesale spot market (**"Market Participants"**) taking action in response to Genesis Energy's offers. Actual demand was different than forecast demand, which is a very common occurrence. Market Participants ought to have known that there was a very real risk of high prices eventuating on 26 March if demand was higher than forecast (even by a small margin), they had sufficient opportunity to respond to that risk by entering hedge arrangements or reducing demand and some parties did just that;

- there was no exceptional or unforeseen circumstance that threatens or may threaten generally accepted principles of trading or the public interest. Although there was a convergence of events that created market conditions that occur infrequently, the market's response to those conditions was normal and to be expected. As explained in the accompanying report by Castalia, occasional price spikes are an essential feature of an efficient spot market. In fact, the claims before the Authority, and the Authority's response, demonstrate that the prices on 26 March are to be expected in the circumstances that existed at the time, and the Authority is concerned that such situations could recur in the future; and

- there was no "price squeeze" that could amount to an undesirable trading practice (see section 4 of the Castalia report). There is nothing to suggest that there was a contingency or event outside of the normal operation of the wholesale market for electricity.

7. Accordingly, there is no basis for the assertion in the draft decision that the events on 26 March threaten, or may threaten trading on the wholesale market for electricity and would, or would be likely to, preclude the maintenance of orderly trading or proper settlement of trades. Indeed, in striving to reach that conclusion, the draft decision makes some further errors, as follows:

    - it fails to properly consider the relevance of the hedge market within the wholesale electricity market, and the proper relationship between the spot and hedge markets. All the evidence shows that trading and settlement on those markets has continued unabated on and since the events of 26 March. In particular, Market Participants obtained hedges or reduced demand for the following weekend, in the same way that they could have for 26 March;

    - the electricity market is also a national market, with a large volume of trades occurring on an ongoing basis. It is therefore not reasonably

possible to substantiate the assertion that isolated trading in a limited part of the spot market has threatened confidence in trading in, and the integrity and reputation of, the entire wholesale market for electricity (or even a substantial part of the market); and rather

- some Market Participants have claimed that they will suffer financial hardship. Some claimants, who clearly do not face solvency concerns themselves, have speculated that other Market Participants may face solvency issues and may be required to exit the market. One Market Participant has advised the Authority that its solvency is threatened *due in part* to the 26 March events, and another has stated it is at risk of not raising investment funds which may mean it exits the market. However, precedent shows that such evidence is clearly insufficient to satisfy the legal test, which is focussed on whether there is a risk to the efficient operation of the market as a whole, rather than protecting individual Market Participants. Further, if the ability of Market Participants to pay is a concern, then there are provisions under Part 14 (Clearing and Settlement) of the Code to deal with this in an orderly way.

The proper response

8. It is also a requirement of a UTS that, in the reasonable opinion of the Authority, the event cannot satisfactorily be resolved by any other mechanism available under the Code.

9. The real concern of the Authority (and claimants) appears to be that given that there was no unlawful conduct, manipulative trading or undesirable practices, the events of 26 March are part of normal market practice and could recur. If that is true, then clearly there is no UTS. As previously stated by the Electricity Commission:

> Thus, a UTS is a situation outside of normal market operation. Furthermore, the Commission is of the opinion that, for an event or situation to be declared a UTS, it should be of such significance that is has dramatic consequences for the market in general or participants in particular. UTS events, by definition, should not occur on a regular basis.[1] [Emphasis added]

10. The UTS provisions only give the Authority power to remedy an event that is outside normal practice, and require the Authority to return the market to normal practice as soon as possible. The UTS provisions do not give the Authority power to intervene to prevent infrequent yet normal market operations from becoming more frequent in practice, which is properly considered as a market design and Code amendment issue (if it is considered that such conduct is in fact problematic).

[1] Consultation Paper, *Review of the UTS Provision*, prepared by the Electricity Commission, 30 April 2010, at page 12.

11. The Authority is therefore at risk of being found to be exercising its powers for an improper purpose.

12. Further, the draft decision does not identify any facts that distinguish this situation from previous situations where no UTS has been found to exist. The Authority is therefore also at risk of being found to have acted inconsistently and arbitrarily. Market Participants have a legitimate expectation that the Authority will apply the UTS provisions consistently with past precedent.

The proposed remedy is inconsistent with the Authority's statutory objective

13. The proposed intervention of imposing price caps will in fact interfere with the efficient operation of the market, and amounts to invasive regulation that creates a moral hazard of encouraging Market Participants and parties with spot price exposure to take risk without consequence (see section 5 of the Castalia report). It also amounts to an expropriation of property rights from those who benefited from trading on 26 March (including, we expect, a diverse range of Market Participants from the supply and demand sides of the market who are distinguished in this event by the success of their risk management practices).

14. As explained in the Castalia report, the decision would produce a number of market outcomes that are inconsistent with the Authority's statutory objective to promote an efficient electricity market for the long term benefit of consumers.

15. In those circumstances, it is very concerning that the draft decision has not adopted the more appropriate approach of considering how market operation may need to be adjusted, via amendments to the Code if necessary. The key question from a market development perspective, which has been before the Authority and its predecessors for some time, is how to ensure that the reliability that consumers demand is delivered in the most efficient and pro-competitive manner. As the Authority pointed out in its initial response to the UTS claims issued on 1 April 2011, there is a substantial market development programme flowing out of the 2009 Ministerial Review of Electricity Market Performance designed to address precisely this issue.

16. If the Authority is now forming a view that price caps should be a component of this market improvement agenda, then this is properly dealt with through the Authority's robust and well-designed Code amendment processes.

17. Market development initiatives such as these require a more measured and informed consultation, in accordance with the principles of the Authority's Consultation Charter, than is occurring under the Authority's UTS

investigation process. The Authority appears to be seeking to circumvent those requirements by inappropriately using the UTS provisions to establish a *de facto* market price cap.

18. Genesis Energy remains very concerned that it is being required to respond to matters that potentially will have a significant adverse impact on its business within very short timeframes. More broadly, we are concerned that any decision made by the Authority to remedy a perceived UTS will have a significant adverse impact on the integrity and efficiency of the market as a whole.

2. The UTS provisions

The purpose of the UTS provisions

19. The test for a UTS establishes a very high legal threshold for regulatory intervention. The Authority correctly notes that it must be an event outside of the normal operation of the wholesale market for electricity.[2]

20. However, the draft decision incorrectly takes the view that "UTS provisions often *give broad discretion* to market providers to deal with practices that threaten trading on the market in some manner, such as practices that disrupt orderly trading or the proper settlement of trades".[3] Properly construed, the UTS provisions provide the Authority with a very narrow discretion to intervene with the operation of the market in a very confined set of circumstances. This is reflected by past consideration of UTS claims, of which only one claim has ever been successful.

21. The Authority concludes that its statutory objective and the economic rationale for UTS provisions generally support its view that the "rationale for UTS provisions is to achieve operationally efficient and competitive markets"[4] and that "the UTS provisions in the Code are consistent with facilitating and encouraging competition (limb 1 of the Authority's statutory objective) and increasing the efficiency of the electricity industry (limb 3)."

22. This strongly suggests that the Authority believes that the UTS provisions provide it with power to proactively engineer what it believes to be desirable market outcomes. This cannot be right. It is clear from the words used and the scheme of the UTS provisions that they are remedial in nature, and that the powers are only to be used in extraordinary circumstances. The fact that the Authority has power to suspend activity on the market, and must consult before taking any action, underlines that market intervention on account of a UTS is an onerous step only to be taken very rarely.

23. The Electricity Commission has previously noted that the UTS regime is aimed at unexpected contingencies or events, or exceptional or unforeseen

[2] Paragraph 16 of the draft decision.

[3] Paragraph 32 of the draft decision.

[4] Paragraph 29 of the draft decision.

circumstances.[5] It is not directed at the process where, in general terms, improvements may be made to the rules over time.[6]

24. Accordingly, the Authority is not empowered, by the UTS provisions, to seek to replace market outcomes with its own view of efficient or socially desirable outcomes. Yet that is what it appears to be attempting to achieve.

25. This misunderstanding of the purpose of the UTS provisions perhaps explains why the draft decision incorrectly concludes that the relevant legal tests are satisfied.

The legal test

26. The key legal test under the definition of UTS is contained in paragraph (a) of the definition. This requires two things to be established:

    - a contingency or event that threatens, or may threaten, trading on the wholesale market for electricity; and

    - a contingency or event that would, or would be likely to, preclude the maintenance of orderly trading or property settlement of trades.

27. The Authority correctly notes that even if specific examples in paragraph (c) of the definition exist, this does not preclude the requirement to satisfy paragraph (a) above (see paragraph 19 of the draft decision).

28. It is therefore notable that the draft decision spends significantly more time addressing whether components of paragraph (c) of the definition of UTS are established rather than establishing whether there is sufficient evidence to satisfy paragraph (a).

No evidence of a threat to the market

29. The starting point is that exceptionally high prices do not constitute a UTS *per se*. This was well established by the Authority's predecessors, which have found that no UTS existed in circumstances where the price spikes in issue were higher than on 26 March. In particular, the Electricity Commission has previously stated that:

    - very high or very low prices do not of themselves indicate a threat to orderly trading; [7]

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[5] EC decision dated 12 May 2004, paragraph 62.

[6] EC decision dated 21 December 2004, paragraph 20; EC decision dated 21 May 2004, paragraphs 45 and 46.

- high prices caused by high demand, beyond forecast, on the day in question are insufficient to establish a UTS;[8]

- a grid emergency or any unusually high prices that may arise from it cannot of themselves be considered to be at variance with, or threatening to, generally accepted principles of trading or the public interest.[9]

30. This is consistent with the fact that electricity spot markets are characterised by occasional very high spot prices and the occasional emergence of generators that are able to influence prices (i.e. having a net pivotal position). As described by the Castalia report, such price spikes are almost always an essential feature of an efficiently functioning electricity market, as they are necessary and desirable to:

    - signal scarcity;

    - allow all generators, including the most costly generator needed to ensure reliable supply, to recover their fixed costs; and

    - provide incentives for market participants to manage risks, including through hedge and retail products.

31. Past decisions have also made it clear that:

    - if the market has continued to trade and settle after the circumstances giving rise to the UTS claim occurred, then this will be a factor against finding a UTS;[10] and

    - the adverse financial impact on individual participants is insufficient.[11]

32. Something more than high prices and adverse financial impact on participants is required to satisfy the threshold in paragraph (a) of the definition of a UTS. In this respect, the Authority follows an approach

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[7] EC decision dated 5 June 2009, paragraph 37. Even the Meridian UTS Claim acknowledges that "Meridian would not normally consider "high prices" as triggering a UTS".

[8] EC decision dated 16 August 2004.

[9] EC decision dated 2 July 2008, paragraph 23.

[10] EC decision dated 30 August 2006, paragraph 48. See also EC decision dated 16 August 2004, paragraph 20; EC decision dated 2 July 2008, paragraph 30.

[11] Market Surveillance Committee Report, 17 July 2001 , at pages 18-19.

consistent with its predecessors regarding the threshold under paragraph (a), as follows:

> To be considered as "threatening" trading, an event must be such that participants' confidence in the wholesale market for electricity is significantly affected, that daily trading is affected by withdrawal (or likely withdrawal of participants), or similar.[12]

33. The only occasion in the past where a UTS was found to exist was where there was a manifest error in information provided to the market (a constraint was not correctly factored into SDS).[13]

34. The Authority seems to appreciate that something more than high prices and adverse financial impacts on participants is required to satisfy the legal test for UTS.

35. In this context, it is important to be precise about who participates in the market, as distinct from those who have financial exposure without actually being participants.

36. A limited number of Market Participants and customers with exposure to spot prices have claimed that they will suffer financial hardship as a result of 26 March. Some claimants, who clearly do not face solvency concerns themselves, have speculated that other parties may face solvency issues and may be required to exit the market. One claimant has subsequently advised the Authority that its solvency is threatened due *in part* to the 26 March events, and another has stated it is at risk of not being able to raise further investment funds, which may in turn mean it will exit the retail market.

37. The financial hardship of parties who are not Market Participants may be of concern, but it is not strictly relevant to the question of whether trading or settlement is threatened. That is because they are not participants in the electricity market.

[12] Paragraph 20 of the draft decision.

[13] EC decision dated 12 May 2004.

38. Market Participants under the Code are listed in section 5 of the Electricity Industry Act 2010, and relevantly includes generators, retailers, lines companies, Transpower, customers taking electricity directly from the grid, and a trader in electricity.[14] It does not include consumers who have exposure to the spot market, but do not trade in that market (or the hedge market). The concerns of such parties are relevant to the Authority's ongoing market development work, but are not relevant to the UTS decision.

39. It is therefore not surprising that there is no direct evidence that trading has been threatened, or that the maintenance of orderly trading or proper settlement of trades has been precluded, by the events of 26 March. Rather, the draft decision speculates that settlement may not occur "at some point".

40. In fact, orderly trading and settlement has continued unabated through and since 26 March.

41. Some of the larger Market Participants who have claimed that a UTS exists approached Genesis Energy over the week of 28 March 2011 to 1 April 2011 seeking cover for the scheduled outages between Whakamaru and Otahuhu on 2 April 2011.

42. It is notable that quite different spot market outcomes occurred on 2 April 2011 under similar grid configurations to that of 26 March 2011. Genesis Energy considers that increased hedging by exposed participants was the key contributor to the unremarkable spot market prices of 2 April 2011.

43. This outcome serves to demonstrate that under the appropriate market conditions and exposure to price risk, parties will enter into arrangements appropriate to their risk appetite, exposure, and opportunity cost of demand reduction.

Price squeeze and demand forecast errors

44. The Authority has considered whether certain elements of paragraph (c) of the definition are established as a means to support its claim that the requirements of paragraph (a) are met (see paragraph 119).

[14] A "trader in electricity" is defined in the Act (s5) as a person who trades in electricity or electricity derivatives, and includes:

- a person who buys or sells contracts under which the payment obligations may change according to the changes in the price at which electricity is bought or sold in any market in New Zealand; and
- any related clearing house or exchange.

45. The key findings in this respect are that:

- there was a price squeeze which is an undesirable practice; and
- there was an exceptional or unforeseen circumstance due to demand forecast errors (and the price squeeze) that is at variance with, or that threatens or may threaten, generally accepted principles of trading or the public interest.

46. The following explains why these findings are incorrect.

Price squeeze

47. We agree with the Authority's conclusion that there was no manipulative trading or unlawful conduct by Genesis Energy. There was no undesirable or misleading practice. As noted in the Electricity Commission decision of 30 August 2006, "the phrase "undesirable practice" has a pejorative connotation". The Authority has correctly found that Genesis Energy's offers were rational, and that it was only a convergence of events and actions, including actions by other participants, that resulted in the offers being dispatched.

48. Genesis Energy is pleased that the Authority finds that "this limited ability of Genesis to forewarn participants, coupled with the fact that Genesis has made offers at $10,000/MWh over an extended period, do not support an allegation of misleading or deceptive conduct." However, we are nevertheless concerned that this suggests that Authority considers that the threshold for finding misleading or deceptive conduct is relatively low, and that there is some type of obligation on generators to forewarn participants about prices if it has the opportunity to do so. This cannot be correct, and would effectively promote collusive conduct.

49. Specifically on the topic of "price squeeze", as further explained in the Castalia report (see section 4), even if a "price squeeze" concept was applicable under the UTS provisions (which it is not), Genesis Energy's conduct on 26 March does not meet the requirements of a "price squeeze". In particular:

- there is no evidence of a deliberate attempt by Genesis Energy to create market power. In fact, it offered to sell hedge contracts. In any event, Genesis Energy could not unilaterally engineer the situation that arose, as events outside its control were required to occur (e.g., a transmission outage, Contact Energy not offering its Taranaki-based thermal plant, and adverse weather conditions);

- there is no manipulation of the market. Genesis Energy did not deliberately conceal or misrepresent its market position. Genesis Energy's price offers were known to other participants well in advance of gate closure. The importance of Huntly generation to ensure supply north of Hamilton during transmission constraints is also well known to participants.

50. It is also important to note that:

> Ultimately, each Market Participant's individual perceptions of particular risks and opportunities are what matters in NZEM and that a Market Participant that complies with NZEM's guidelines and principles is (subject to the particular Rules) entitled to compete in NZEM as it chooses.[15]

51. It is therefore incorrect to find that Genesis Energy conducted a "price squeeze" on 26 March.

Demand forecast "errors"

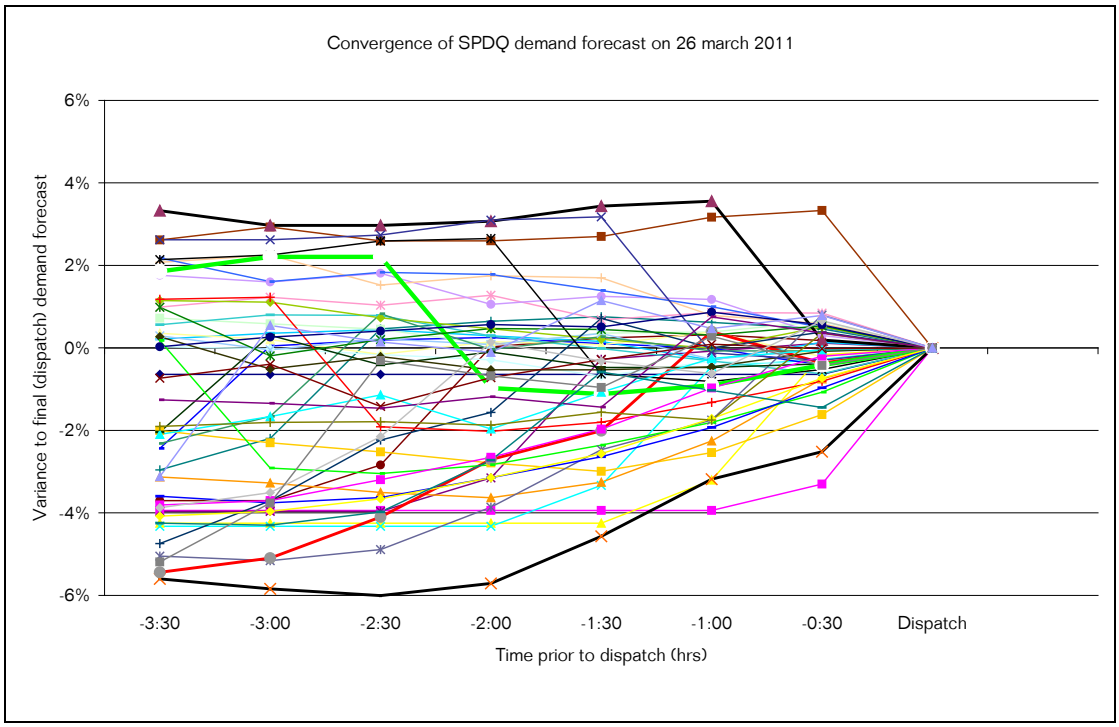
52. The draft decision states on a number of occasions that demand forecast "errors" were a key reason why market participants were caught by surprise by the high prices on 26 March, and did not have an opportunity to take prior steps to mitigate the risk of those prices occurring.

53. However, there were in fact no demand forecast "errors". Rather, actual demand turned out to be different than forecast demand. There is nothing unusual or unexpected in this.

54. Figure 1 below shows the convergence of system demand forecasts for various trading periods of the 26 March. The final or "dispatch" forecast demand (not actual demand) is represented as a 0% variance, and all prior forecasts for that period are relative to this "dispatch" forecast.

[15] Market Surveillance Committee Report, 17 July 2001, page 25.

Figure 1: Volatility and convergence of system demand forecasts, 26 March 2011

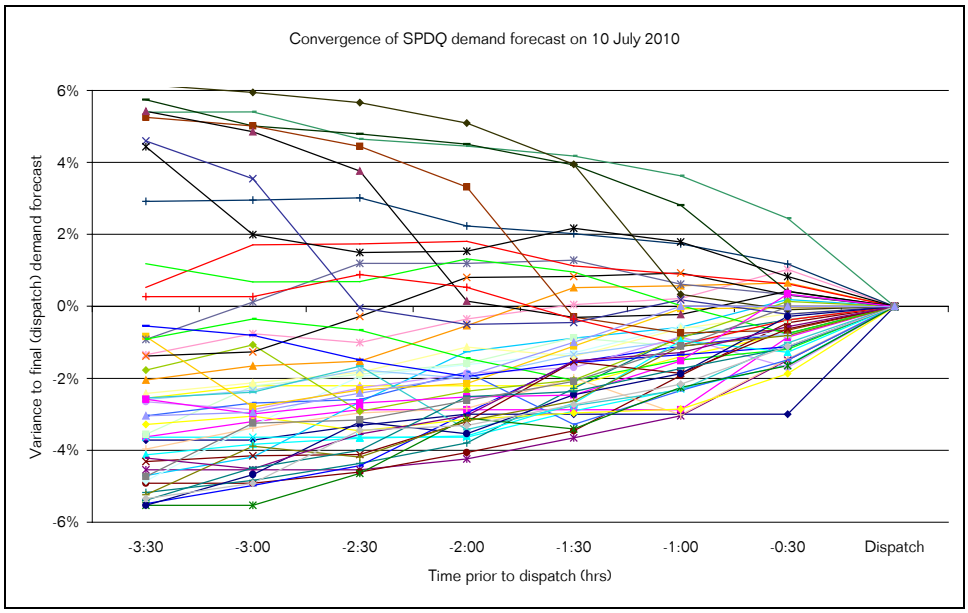


Source: WITS

55. Figure 1 demonstrates that as close as two hours from dispatch (at market gate close) forecast demand varied from dispatch forecast by between +3% to -5%. This range of demand variation impacts on market outcomes in terms of price and volume, with the magnitude of the pricing impact depending on the offers in the market on the day.

56. This degree of demand forecast volatility is by no means an unusual occurrence in the New Zealand electricity market. Figure 3 shows another example of demand convergence, in this case for 10 July 2010 (a randomly selected day), showing +/-6% forecast variance from final forecast.

Figure 2: Volatility and convergence of system demand forecasts, 10 July 2010



Source: WITS

57. Relying on a demand forecast from the day prior ignores much of the market information available at the closing stages of the system bid, offer and dispatch process, including transmission grid configuration changes, the state of large direct-connected loads, weather conditions and changes within the geographic distribution of demands.

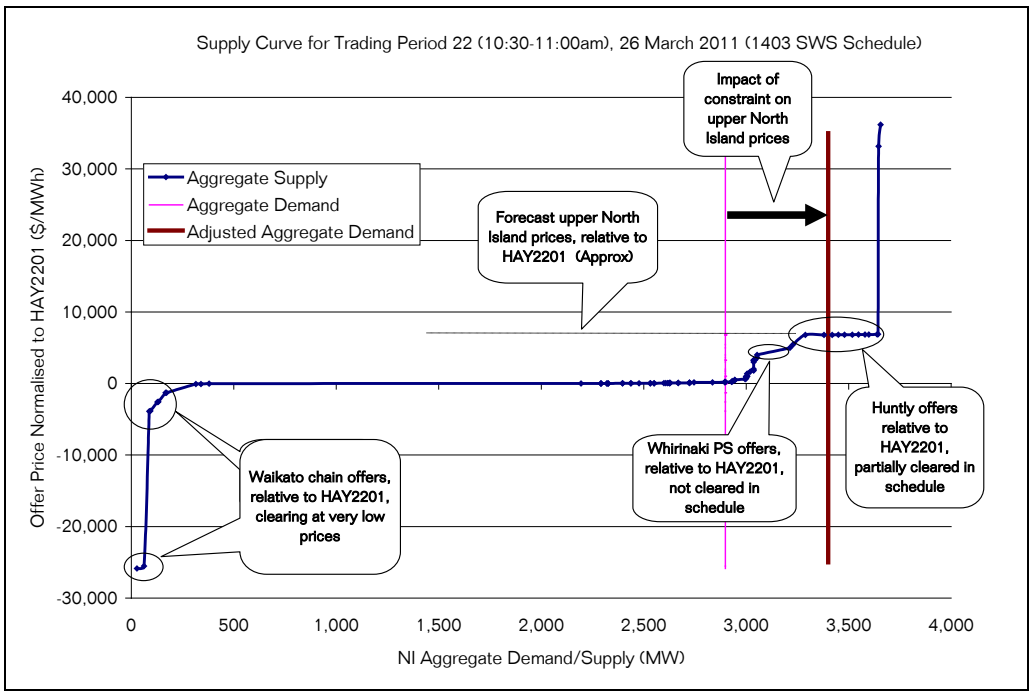
58. On Friday 25 March, when forecasting price outcomes for 26 March, an experienced trader could reasonably be expected to know:

- that the transmission outage on 26 March was notified to the market on 15 December, and confirmed on 16 February 2011;
- that the transmission outage had originally been planned for December but was postponed due to the unavailability of generation plant in Auckland;
- that the transmission outage meant generation from Huntly was required to support demand for Hamilton northwards;
- the shape of the supply stack and offer prices;
- forecast system demand;
- forecast prices (particularly at the locations of their risks); and

- weather forecasts

59. Figure 3 shows the data provided by the System Operator on the afternoon of 25 March 2011 as part of the SWS schedule published at 14:03hrs for trading period 22 (10:30-11:00am) of 26 March 2011. This was the schedule that also produced the high forecast spot prices that were observed by Mighty River Power, prompting its offer changes and hedge requests to Genesis Energy.

Figure 3: Demand and Supply Curves available on Friday, 25 March 2011

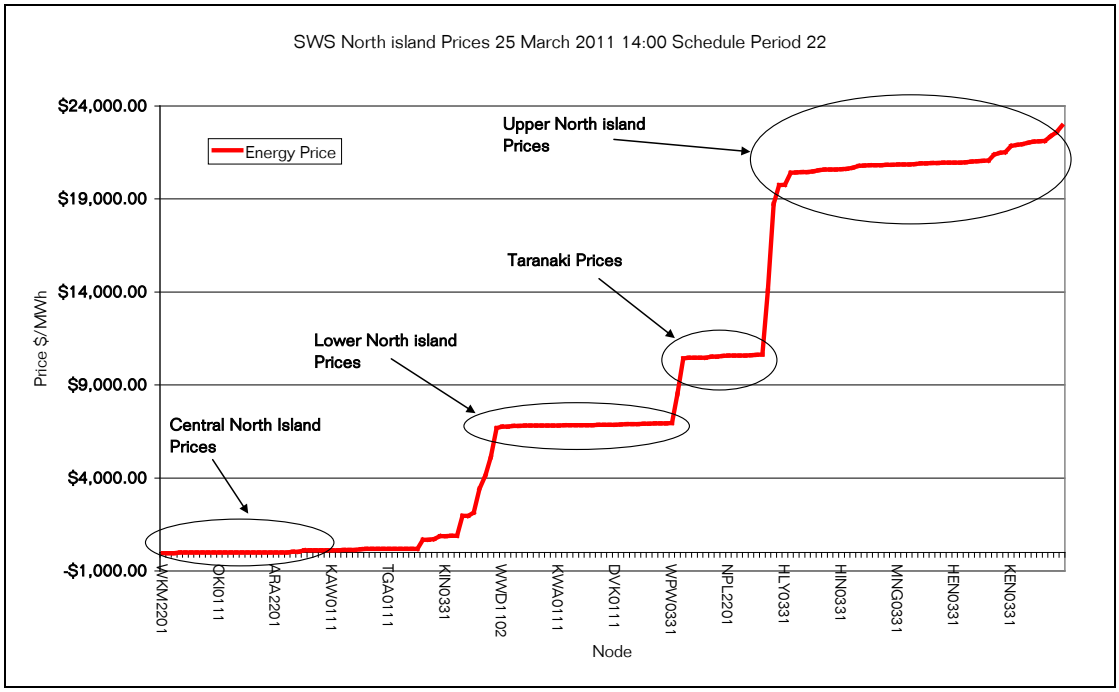


Source: WITS

60. It would have been clear to an experienced trader that this supply curve shows significant stress or distortion in relation to the grid outages. This is primarily evident in the appearance of prices at less than $0/MWh when referenced to Haywards, a situation that only occurs when the grid is constrained. By estimating the volume of offered generation in the stack that is not able to clear due to its location relative to the grid constraints, it is possible to estimate an adjusted aggregate demand value, which when plotted on Figure 3 much more closely aligns with the scheduled prices adding weight to the likelihood that high prices will carry through to dispatch.

61. Figure 4 demonstrates that the situation observable from the 1400 SWS schedule was affecting the entire North Island. To an experienced trader this is a clear indication that there is a significant grid constraint occurring and that prices observed are realistic (as opposed to a model artefact or isolated disconnected node). In addition it would be relatively straightforward to connect this pattern of observed prices to the constraint resulting from a significant core grid transmission restriction in the central north Island which limits supply to the upper North Island, including Auckland.

Figure 4: Prices of North Island Nodes for TP22 of 26 March 2011 Forecast in the 1400 SWS schedule



Source: WITS

62. The fact that Mighty River Power pursued hedge cover on Friday, 25 March 2011, indicates that there was sufficient information available to participants to be aware that prices were possibly going to be high and that market conditions were certainly volatile.

63. Large "time of use" (**"TOU"**) consumers typically do not employ dedicated electricity traders and, if they have significant exposure to spot prices, should be expected to take advice on how best to manage their risk. Even relatively unsophisticated electricity purchasers can readily avail themselves of information tools that can alert them to the risk of high or volatile prices. Appendix B catalogues some information tools freely available to any person.

64. From Genesis Energy's perspective:

- we attempt to educate and protect less sophisticated consumers by recommending that they do not take on the risk and uncertainty of spot exposure; and

- if the Authority is concerned about the knowledge of non-Market Participants exposed contractually to spot market prices, and the quality of advice those parties receive, then it should be considering whether existing regimes such as the Financial Advisers Act, Fair Trading Act and Consumer Guarantees Act are adequate, or whether further regulation is required specifically for the electricity market. Clearly, this is not a UTS issue.

65. An end user or participant exposed to the spot market should be accessing and assessing at least basic freely available information in real-time and be prepared to respond by, for example:

- reducing their consumption to contract or hedge levels to limit or eliminate their spot exposure;

- obtaining further hedge cover to allow them to maintain normal consumption; or

- verifying that they are financially able to accept continued spot exposure.

66. In fact, some participants both from the supply and demand side of the market responded in these ways on 26 March.

67. In light of the above facts, it is simply not credible to assert that either:

- actual demand at variance from forecast demand amounts to an "error" that is unexpected or unforeseen; or

- market participants could not access sufficient information to alert them to the high risk of high spot market prices on Saturday, 26 March.

68. The Market Surveillance Committee has previously usefully summarised the role of forecasts in the spot market, and the price volatility that can occur when actual demand varies from forecast demand, as follows:

> The Committee has noted that NZEM seeks to mimic a commodity spot market. As a preliminary point the Committee notes that the more successful NZEM is as such a mimic, the more difficult it will be to model or forecast spot market prices. The key reason for this is that in virtually all spot markets prices vary according to individual participants' expectations of the future - in an electricity spot market these will include expectations about a wide range of factors relating to future demand and supply conditions. Legitimately held major differences in view can, and do, occur and it is a major function of spot markets to reconcile them. Commodity spot markets are well known for their volatility as new, often intangible, information arrives and is absorbed by participants. Models have an extremely challenging task to forecast such information, related it to expectations and use it to anticipate price changes….
>
> … in electricity markets short-term capacity is costly to vary and short-term demand is relatively inelastic with the result that substantial price variations can occur. For example, where the capacity of the system is approached by demand, wholesale prices will tend to approach long-run marginal costs. There is no reason to expect that this will happen smoothly or that different participants will have the same view about when this will occur. Small imbalances in supply and demand can result in large price variations and thus the spot price of electricity may be very volatile as it approaches a different marginal cost of supply.
>
> Finally, the offers made by Market Participants reflect their actual hedge positions and these are not, and cannot be, properly accounted for in the models. The Committee has noted that hedges materially alter the financial risk attached to current and future inflows and the incentives for particular offering behaviour. Because hedges are useful risk management instruments it will generally be the case that it is in the public interest for spot market behaviour to be modified by them, but their absence from models will generally significantly affect forecast accuracy.[16] [Emphasis added]

69. In short, there could be many reasons why market participants were exposed to high spot prices on 26 March, including their own appetite for risk.

Exceptional and unforeseen event

70. The claim in the draft decision that deviations from forecasts combined with a price squeeze led to an exceptional or unforeseen circumstance that threatens generally accepted principles of trading or the public interest cannot be sustained. As highlighted above, there was no price squeeze, and previous regulators responsible for enforcing the UTS rules have accepted that variances from forecast are to be expected as a feature of the spot market, and that price volatility should also be expected as a result.

71. The events of 26 March were not an exceptional or unforeseen circumstance. The market responded and operated exactly as it was designed to do in the circumstances that eventuated, in accordance with the Code.

[16] Market Surveillance Committee Report, 17 July 2001, at page 23.

72. As explained in the Castalia report:

- electricity spot markets are characterised by occasional price spikes, which are an essential feature of an efficiently functioning market;
- in times of scarcity, caused by either high demand, transmission constraints or some combination of factors, it may become profitable for generators to offer capacity at higher prices because they will be dispatched;
- such higher prices serve to signal the need for investment and allow all generators, including the highest cost generator, to recover fixed costs. Because peaking plants, such as Huntly units, run very infrequently, fixed costs must be recovered across a very few trading periods, which implies very high prices;
- spot markets, and high prices in particular, are inherently unpredictable. If they were predictable, there would be no need for hedge markets. While demand, generator availability, and transmission capacity are all forecast, these forecasts are subject to change in real time;
- hedge markets exist as a mechanism to manage this volatility;
- participants were certainly aware of the possibility that very high prices would eventuate if demand was higher than forecast, or if any supply became unavailable; and
- the fact that some participants suffered financial hardship in the short term does not preclude an outcome that the decision not to hedge is more profitable in the long run. It is important to avoid an outcome where participants are rewarded for profits obtained from the spot market, and also protected when spot market outcomes are less favourable than hedge market outcomes.

73. Further, there is no evidence that the events were at variance with "generally accepted principles of trading" or "public interest". In this context, the Electricity Commission has previously stated that:[17]

> An inadvertent failure to correctly model a re-rating constraint in SPD is unlikely to meet the threshold of being an "exceptional or unforeseen circumstance" and accordingly paragraph (e) does not apply.
>
> However, even if an inadvertent failure to model the removal of a constraint could be considered an exceptional or unforeseen circumstance, the

[17] EC decision of 30 August 2006, paragraphs 37-39, and 41.

> Commission thinks that it is unlikely that it can be considered to be at variance with, or threatening to, generally accepted principles of trading or the public interest.
>
> Although "generally accepted principles of trading" are not defined, the Commission considers it unlikely that a mistake by a service provider breaches any principles of trading that would be regarded as "generally accepted". There has not, in the Commission's view, been a departure from any principles of trading. There simply appears to have been an error that constitutes a straightforward (and admitted) breach of the rules.
> …
> Turning to whether the circumstances are at variance with the "public interest", the Commission does not consider that it is sustainable to argue that final pricing based on erroneous input information should automatically be considered as being at variance with the public interest.

74. In Genesis Energy's view, if a manifest error in input information does not amount to an exceptional or unforeseen forecast that is at variance with accepted principles of trading or the public interest, then it cannot be possible to find that trading in accordance with the market rules, with no manifest errors in input information, satisfies this limb of the test.

75. In fact, seeking to intervene in these circumstances will be at variance with accepted principles of trading; it creates uncertainty, and legitimately gained benefits will be expropriated (as discussed further below).

Confidence in the market, reputation, and financial impact

76. The draft decision seeks to use its finding that "the events involved the undesirable trading practice of squeezing a market" that "resulted in the exceptional and unforeseen circumstances that threatens, or may threaten, generally accepted principles of trading and the public interest", to substantiate its finding that paragraph (a) of the definition is met.

77. The draft decision asserts that:

- prices did not relate to supply and demand or underlying costs, and that it is in the public interest to have a market in which participants can be confident that prices are competitively determined. If participants observe that prices are divorced from supply and demand conditions and/or are excessively higher than underlying costs, then they will lose confidence in the integrity of the market; and
- the lack of awareness of the exceptionally high prices has also seriously undermined confidence; and
- this could lead to inefficient investment signals.

78. The above discussion, and the Castalia report, explains why these assertions are incorrect. In particular, it is not correct to say that prices did not relate to supply and demand or underlying costs. In fact, it was only because of the lack of supply to meet demand north of Hamilton that Genesis Energy was able to obtain a price that reflected its ongoing costs of maintaining the Huntly plant.

79. If, however, confidence in the market was in fact an issue, then the correct approach is to consider how this could be remedied through appropriate amendments to the design and operation of the market via the Code.

80. The key question from a market development perspective, which has been before the Authority and its predecessors for some time, is how to ensure that the reliability that consumers demand is delivered in the most efficient and pro-competitive manner. As the Authority pointed out in its initial response to the UTS claims issued on 1 April 2011, there is a substantial market development programme flowing out of the 2009 Ministerial Review of Electricity Market Performance designed to address precisely this issue. This ranges from core market design improvements, such as scarcity pricing and improved locational price risk mechanisms, through to improved governance of ongoing continuous market improvement.

81. If the Authority is now forming a view that price caps should be a component of this market improvement agenda, then this is properly dealt with through the Authority's robust and well-designed Code amendment processes. We note that the concept of price caps is already a matter that the Authority has had before it as part of its scarcity pricing work. The Authority released a consultation paper on this matter on 29 March 2011 that explored the issue of price caps and settled on a view that price caps would do more harm than good. This view received support from a number of market participants and will properly be considered further as the scarcity pricing Code development work progresses.

82. Locational price risk is also clearly a factor relevant to how the market performed on 26 March 2011 and, again, the Authority is consulting on market developments that will expand the range of tools available to participants to manage price volatility induced by transmission constraints and outages. Genesis Energy has been a strong supporter of this work and has consistently advocated a more comprehensive approach to locational price risk management than that currently being pursued by the Authority.

83. Genesis Energy has consistently advocated for a range of relevant market developments, including:

- the need for greater demand side participation[18,19,20,21];
- the need for improvements to market information such as improvements to grid emergency notices, greater information around constrained on generators, and the need for improved forecasts for demand and wind[18,22,23,24,25];
- the importance of high prices to signal the need for new investment and promote multi-period competition and dynamic efficiency;[18,23,26,27,28] and
- support for measures that enhance market efficiency and transparency.[29,30]

84. The draft decision also asserts that the reputation of the market may be damaged to a point where trading on the market may be threatened and the adverse financial impact on some parties may preclude the maintenance of orderly trading or the proper settlement of trades (paragraph 140).

85. There is no evidence to substantiate this, as discussed above. In fact, trading has continued as normal.

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[18] *Scarcity pricing*, Genesis Energy submission to the Electricity Authority, 29 April 2011.

[19] *Dispatchable demand regime*, Genesis Energy submission to the Electricity Commission, 17 June 2010.

[20] *Dispatchable demand*, Genesis Energy submission to the Electricity Commission, 16 November 2009.

[21] *Ministerial review of Electricity Market Performance*, Genesis Energy submission to the Ministry of Economic Development, 16 September 2009

[22] *SO draft policy statement*, Genesis Energy submission to Transpower, 15 March 2011.

[23] *Annual Security Assessment 2009*, Genesis Energy submission to the Electricity Commission, 1 February 2010.

[24] *Wind forecasting & market integration*, Genesis Energy submission to the Electricity Commission, 26 April 2010.

[25] *2010 SO draft policy statement*, Genesis Energy submission to the Electricity Commission, 12 May 2010.

[26] *Whirinaki offer strategy*. Genesis Energy submission to the Electricity Authority, 6 April 2011.

[27] *Locational price risk*, Genesis Energy submission to the Electricity Authority, 10 May 2011.

[28] *Customer compensation scheme*, Genesis Energy submission to the Electricity Commission, 7 October 2010.

[29] *Bids and offers*, Genesis Energy submission to the Electricity Commission, 5 February 2010.

[30] *Locational price risk*, Genesis Energy submission to the Electricity Commission, 22 October 2010.

86. Previous decisions have also made it very clear that the Authority should be very slow to draw an inference that adverse financial impact on individual participants amounts to a UTS:

> "…the financial impact of the circumstance giving rise to the UTS claim is not so significant that it could realistically be regarded as likely to threaten trading (in the order of 0.05% of total purchases in the relevant month). The Commission does not consider that a market impact of this magnitude can generally be considered to threaten trading on the wholesale market for electricity. The market (and Genesis, the market participant that bore the brunt of the financial impact) has continued to trade and settle after the circumstances giving rise to the UTS claim occurred."[31]

> "…while it is undoubtedly the case that certain Market Participants have been, or are being, placed under financial pressure (in some cases significant) by (singly or in combination) spot market prices, a thin financial hedge market and current retail prices, in the Committee's view, that financial strain does not, and does not seem likely to, "preclude the maintenance of a fair or orderly market or fair or proper settlement of trades". In any case, in the Committee's view, the rules concerning "undesirable situation" are for the protection of an efficient and competitive spot market. Those rules should not be used to shield particular market participants from market forces unless, for example, the consequences of the failure of a market participant threaten trading and settlement on the spot market as a whole."[32] [Emphasis added]

87. If the Authority is concerned that the prices of 26 March place strain on the solvency of individual participants, then Part 14 (Clearing and Settlement) of the Code provides mechanisms to deal with this.

88. The Authority should consider the adverse impact its decision will have on the reputation and development of the broader market, including the hedge market, which is discussed in the final section of this submission.

89. The Market Surveillance Committee has also previously emphasised the importance of taking a long term view of dynamic efficiency in the market, rather than focussing on a snapshot of (perceived) adverse impacts:

> Practices, such as the use of market power, are not necessarily an "Undesirable Situation" under the Rules. (Such practices may well be tolerated under competition law because they enhance economic efficiency overall.) Disregarding the behavioural "offences", Rule 2.35 is concerned with the state of, and the basis for, trading on NZEM. The Committee believes that the proper objective function is that of dynamic efficiency since this should result in better investment signals and improved consumer welfare over time even if, at any particular time, the immediate state of efficiency can be improved.
>
> The central issues is the extent to which particular episodes of supply and demand provide relatively different opportunities for different competitors to

[31] EC decision of 30 August 2006, paragraph 48.

[32] Market Surveillance Committee Report, 17 July 2011, at pages 18-19.

> profit in the spot market in ways that are not in the public interest (as determined by reference to dynamic economic efficiency). For example, should episodes which arise from uncertain (by season, year and decade) variations in supply and demand and other factors (such as line and plant outages) and which temporarily result in higher prices be allowed or should regulatory rules be imposed and other ways of signalling investment be sought? The Committee notes that in NZEM to date such episodes have occurred with different competitors being advantaged or disadvantaged by them and that, to date, the final consumer has largely been immunised from these events: even in respect of the current high prices. ….
>
> The Committee is not suggesting that NZEM is by any means perfect in dealing with the effects of oligopoly. But in the Committee's view it is important, when assessing particular events in NZEM, to recognise the dynamic nature of electricity markets and not to take a static view of each individual episode.[33] [Emphasis added]

90. If a proper long term perspective is adopted, in accordance with the Authority's statutory objective, then the events of 26 March will promote market efficiency, including the following outcomes (see Castalia report):

    - there will be greater incentives for more active risk management by spot market participants;
    - the hedge market will be improved, which promotes competition in the market; and
    - better investment signals for generation and transmission will be sent.

91. Finally, the Authority also notes that there is a strong prospect that buyers will seek external interventions that could threaten the existence of current wholesale market arrangements. Genesis Energy is not sure what this means, but it appears to be unwarranted speculation and therefore an irrelevant consideration.

[33] Market Surveillance Committee Report, 17 July 2001, at pages 20-21.

3. Proper purpose, consistency and fairness

Improper purpose

92. Many of the claims are based on the proposition that, if left unchecked, Genesis Energy's conduct will establish "a new benchmark or precedent, with other participants considering following suit whenever the opportunity arises". The claims are also based on assertions that the event, *and the possibility of the event recurring*, will have various adverse affects on participants, including financial hardship and leading to unreasonably high energy prices. Further, participants will also need to question the future levels of spot exposure and may lead to the market being "anything goes" (see paragraph 52 of the draft decision).

93. Indeed, Mighty River Power has asked the Authority to "set a clear direction to participants in terms of market behaviour and practice, to reduce the incentives for such behaviour going forward" and Air New Zealand "requests that the Authority should consider giving directions to participants as to appropriate pricing behaviour during future similar situations" (paragraph 58(f) of the draft decision).

94. The draft decision therefore finds that "it is entirely likely that generators may continue to cause exceptionally high prices in the wholesale market for electricity, when they have a net pivotal position" (paragraph 137 of the draft decision).

95. This leads the draft decision to conclude that allowing the events to stand "will threaten to undermine confidence in the wholesale market for electricity and threaten to damage to the integrity and reputation of the wholesale market for electricity" and would be "likely to preclude the maintenance of orderly trading and the proper settlement of trades *at some stage in the future*" (paragraph 144 of the draft decision).

96. Essentially, the concern appears to be that because there is nothing illegal or inappropriate about Genesis Energy's conduct, it could be repeated in the future, perhaps frequently. This further highlights that the draft decision is flawed - events cannot be "exceptional or unforeseen" if a key concern is that they will establish a new norm if left unchecked.

97. However, above all, it demonstrates that the draft decision is inappropriately seeking to regulate future market conduct, rather than responding to an isolated exceptional event.

98. That is, Genesis Energy considers that the draft decision seeks to exercise the Authority's powers under the UTS provisions for an improper purpose.

Consistency and fairness

99. The onus is on the Authority to demonstrate that there is something about the current situation that is distinct from previous situations where UTS claims have not been upheld, such that it is reasonable for it to find that the legal test is satisfied. In the absence of such evidence, which has been demonstrated above, the Authority is open to allegations that is has acted inconsistently and in an arbitrary manner.

4. Proposed remedy

Proposed remedy is inconsistent with statutory objective

100. There is no precedent for the remedy proposed by the Authority. If its decision is intended to establish a precedent (it invites participants to complain every time they suffer an adverse outcome on the spot market), then it effectively amounts to price capping of a competitive market.

101. On the approach in the draft decision, the only way that Genesis Energy could have avoided a UTS was to voluntarily restrain its offers in response to market conditions. This would have the following implications:

- Market Participants are expected to be aware of the activities or proposed activities of other market participants; and
- Market Participants should adjust their own (offer) behaviour in response to their view of the behaviour and financial circumstances behaviour of other parties.

102. This would raise numerous issues. Primarily, it encourages market participants to engage in the very type of collusive conduct that harms competitive markets, and should be avoided. It is also impossible for Genesis Energy to know what an acceptable level of voluntary constraint should be.

103. It also directly contradicts the purpose for the spot market as previously explained by the Market Surveillance Committee:

> The purpose of a spot market is to show the outcome of the individual pursuit of self-interest by its participants. If participants abide by the rules of the market and do not enter into collusive arrangements, market power issues will generally be more related to market design and the structure of the industry sector from which the participants are drawn than to the behaviour of individual participants.[34]

104. We also note that the Authority interprets its objective to promote competition as requiring it to promote overall efficiency, and is not concerned with wealth transfers (i.e. does not differentiate between gains to producers or consumers).[35] Yet this is exactly what its proposed

[34] Market Surveillance Committee Report, 17 July 2001, page 6.

[35] Electricity Authority, Interpretation of the Authority's statutory objective, 14 February 2011, paragraph 2.2.1(c).

intervention seeks to achieve with respect to a particular set of trading periods.

105. As detailed in section 5 of the Castalia report, the artificial price cap proposed by the Authority would:

- lead sophisticated participants to understand that there is no need to purchase hedge products to insure against "exceptional or unforeseen" events - to the detriment of those who have in fact purchased cover;
- all participants will have less incentive to participate in the hedge market in the future, contrary to the Government's clear objective of promoting liquidity in the hedge market;
- create uncertainty for future generation offers - there is a relatively low and nebulous bar for a UTS declaration, with a price cap of $1,500MWh to $3,000MWh; and
- it also sends a clear signal to Genesis Energy to withdraw one or more units at Huntly from the market, as the costs of maintaining that generation cannot be recovered.

106. The remedy proposed in the draft decision includes the "administration" of Tokaanu, Rangipo, Tuai and Waikato generation prices and volumes by reverting to offers contained within other earlier market schedules. Taken with the proposed administered offer prices for Huntly, the resulting schedule will produce an internally inconsistent result. These hydro offers, taken from a week-ahead schedule are wholly inadequate for the purposes of the proposed remedy.

107. The proposed source for these offers, from 0900 on 25 March 2011, is inconsistent with the requirements of the Code which does not require participants to have submitted offers for a following day until 13:00 of the day before.[36] As such, neither these offers, nor re-generated solutions derived from them, would be expected to represent economic or optimal dispatch.

108. Any market schedule constructed of offers from such disparate sources can only produce arbitrary and unpredictable outcomes. Participants have not been engaged in the well constructed and established process of submitting and revising offers in good faith and in full compliance with the Code. This uncertainty of outcome and the absence of opportunity to refine offers to a participant's commercial position and resubmit offers may turn net producers to net buyers, incurring significant penalty.

[36] Electricity Industry Participation Code, clause 13.6(1).

109. This proposed remedy would itself give rise to significant market uncertainty and negative impacts on a number of participants, including Genesis Energy. The remedy itself would then represent a threat to orderly trading and settlement of the market.

110. In conclusion, the Authority should be extremely slow to cap prices or administer offers when there was no manifest error, the market operated in accordance with the Code, and there was no inappropriate conduct from participants. It amounts to expropriation of property rights, and establishes a large amount of uncertainty regarding how the market will operate in the future.

111. Ultimately, it will promote inefficient market outcomes, which is inconsistent with the Authority's statutory objective.

Care required in developing a price cap

112. Without prejudice to its position that there was no UTS, and that the Authority should not set the price at which trades should be completed, Genesis Energy makes the following comments with respect to the level of the cap proposed by the Authority.

113. As pointed out in the Castalia report, the underlying principle should be to set a cap that will preserve incentives to maintain reliable supply.

114. In this context, the cap proposed by the Authority is significantly lower than it should be. By way of comparison, the Value of Lost Load (VOLL) used in the Grid Investment Test is set at $20,000 (or higher where justification can be shown). This figure is itself only a crude estimate.

5. Conclusion

115. In summary, Genesis Energy considers that there is no legal basis for the Authority to establish that there was a UTS on 26 March 2011. Genesis Energy has not engaged in any manipulative, misleading, unlawful or undesirable conduct or practice and orderly trading and settlement is not threatened.

116. There is no basis for finding that Genesis Energy engaged in a "price squeeze" and trading on the wholesale market continued in an orderly fashion on 26 March and in the following weeks.

117. There were no forecast "errors" relating to 26 March 2011 and there is information readily available to parties to assist them to form their own view of price risks and to manage their exposure accordingly.

118. Periodic price spikes arising during conditions that cause a generator to temporarily become net pivotal are symptomatic of a well-functioning and efficient wholesale electricity markets and support investment in plant that supports reliable supply.

119. There are a number of confusions apparent in the draft decision, including between hedge market pricing benchmarks and spot pricing behaviour, between Market Participants and parties that have agreed contractually to accept a degree of spot price exposure and between the potential long-term merits of price caps and the effect of retrospective application of a price cap to historical trading periods.

120. The Authority's draft decision, including its proposed remedy, threatens to establish a nebulous *de facto* price cap without the due process afforded to even far less significant market developments.

121. Responses to the Authority's consultation questions are contained in Appendix A.

Appendix A: Responses to Consultation Questions

QUESTION	COMMENT
Q1: Has the Authority accurately recorded and interpreted all of the salient facts in regard to this matter? If not, please detail the inaccuracies.	Please refer to our substantive submission.
Q2: Do you agree with the Authority's draft decision that the situation existing on 26 March 2011 constitutes a UTS? Please give reasons for your answer.	Please refer to our substantive submission.
Q3: Do you agree with the draft remedial actions that the Authority intends to take to correct the UTS? Please give reasons for your answer.	Please refer to our substantive submission.
Q4: Are there any other remedial actions that the Authority should take to correct the UTS? If so, please detail the other actions and give reasons for your answer.	Please refer to our substantive submission.

Appendix B: Readily Available Market Information

The following is a summary of information that is freely available to participants and other interested parties.

List of relevant information available via WITS FTA (free)

WITS Free to Air (FTA) is a publicly available NZX website providing key market data.[37]

1. 5 minute prices: Resulting from the dispatch process, but prior to the subsequent finalisation of pricing by the Pricing Manager.
    - This data would show the price outcomes occurring in real time, allowing for immediate response after the first half hour or so for some spot customers.
    - Experienced traders seeing $20,000/MWh prices occurring in real time would fully expect these prices to be genuine.
2. Transmission Constraints: Listing of transmission lines (or arcs) that are reaching constraints within a schedule.
    - WITS FTA shows the OTA_WKM cots reaching constrained limits across a whole series of schedules.
    - This is a very significant piece of information on WITS FTA with respect to the events of 26 March.
3. *Historic orders*: Information regarding previous offer prices.
    - this includes the long standing $10,000/MWh offers.

List of relevant information available via EM6Live (free)

EM6Live is also a publicly available website providing live system operation data.[38] This site provides by region:

1. Current pricing:
    - this would also have shown the price separation occurring around the transmission constraint; and

[37] Source: http://www.electricityinfo.co.nz/comitFta/ftapage.main.

[38] Source: http://www.em6.co.nz/em6/faces/pages/login.jspx.

- regional representation with transmission lines approaching capacity highlighted.

2. Demand, including comparison to previous days.

    - This would have been useful in real time, as it would have shown demand in the Auckland region significantly higher than previous periods.

List of relevant information available via WITS (subscription)

The fuller WITS site is accessible to all parties following approval by the Authority.[39] There is no charge for this access:

1. SWS and PDS schedules and prices.

    - This is where 1400 and 1600 schedules from the 25th of March would be found, to identify the $20,000/MWh price occurrences.

2. Constraints (as per WITS FTA).

3. Dispatch schedules up to four hours ahead of real time.

[39] Source: https://www.electricitywits.co.nz/comit/web_main_pages.home.

Expert Report on Draft Decision Finding an Undesirable Trading Situation on 26 March 2011

13 May 2011

1 Introduction

1. My name is Aleksandr Sundakov and I am the Executive Director of Castalia, a global economics consulting firm with particular expertise in electricity markets.

2. I have advised on electricity market design and regulation in several jurisdictions, and have appeared as an expert economic witness in cases before the High Court of New Zealand, the Australian Competition Tribunal, the Australian Consumer and Competition Commission (ACCC) and the New Zealand Commerce Commission.

3. I have also advised on electricity generation investments totalling in excess of US$8 billion, and have prepared independent market reports for international lenders in such transactions.

2 Important Features of Wholesale Electricity Markets

4. I begin this report by discussing the important features of wholesale spot markets that are relevant to the UTS draft decision. This helps to establish a benchmark for understanding when a UTS may occur, and helps to identify how the remedies proposed by the Authority will affect market efficiency. As I explain, the Authority's draft finding of a UTS appears to rest on a conflation of the spot, hedge and retail markets. The Authority's logic, when stripped to its basics, is that a UTS has occurred because the spot market did not behave as a hedge market. This conflation is wrong, and if the ruling is implemented, it will have a sustained negative effect on the efficiency of the New Zealand electricity markets.

Electricity markets consist of distinct but related spot, hedge and retail markets

5. Sellers and buyers of electricity in New Zealand (and wholesale electricity markets overseas) coordinate their activities through a number of interrelated markets. The spot market balances electricity supply and demand in real time, and ensures that available generation is dispatched to meet demand from lowest cost sources. Sellers and buyers can also contract outside of the spot market to manage the risk that prices are either higher or lower than expected.

6. There are a range of products available to manage these risks, such as contracts for differences, cap contracts and futures contracts. In this report I refer to these products as the hedge market. The hedge market exists precisely in order to deal

with spot price volatility and unpredictability, particularly for parties that are not well positioned to manage risk.

7. In the hedge market, willing buyers and willing sellers will contract with each other for a variety of contract for difference type products that will give both parties the certainty that they desire. Generators have a further reason to wish to contract in the hedge market. They can capture the hedge premium. This premium exists because some consumers and thinly capitalised retailers generally value certainty higher than the generators.

8. Retail contracts are a form of a hedge contract, where retailers earn a premium by offering customers price certainty. The existence of the hedge premium encourages some consumers to take on retail contracts that expose them to the spot market, in the expectation that the average price they will pay will be lower than the hedge price. In addition, through the presence of vertically integrated generators and retailers (commonly known as 'gentailers'), the retail market in New Zealand acts like a fixed forward contract that allows generators to manage the risks of price volatility in the spot market (as an alternative to the hedge market).

The UTS claim relates to the functioning of the spot market

9. Despite the important inter-relationships between markets for electricity in New Zealand, the UTS claim relates only to the functioning of the spot market. This is because the complexity of running real time scheduling and dispatch of electricity requires provisions to correct any errors or problems that arise through trading in that market. The UTS provisions give participants the confidence to transact in real time, knowing that they will not be bound by outcomes that result from manifest errors in the dispatch algorithm, for example.

10. The UTS provisions give the Authority the ability to re-set the spot settlement price under some circumstances. In contrast, the Authority does not have the ability under the UTS provisions of the Code to investigate trading in the hedge market or to reset hedge prices.

11. Although the UTS provisions are confined to the spot market, the determination that a UTS exists cannot be made without considering the role that the hedge and retail markets played in the events being investigated. In other words, spot market performance can only be evaluated in the context of the broader markets available to consumers to buy or sell electricity, and the specific role that each market plays.

12. The role of hedge and retail electricity markets is particularly important for understanding the welfare impacts of spot market events, and the impacts that spot prices have on consumers. Viewing the spot market in isolation will lead to perverse outcomes because the opportunities for parties to efficiently manage risk will fail to be accounted for, increasing the overall costs of electricity supply over the long term.

The need to carefully define participants in the wholesale electricity spot market

13. Ignoring relationships between electricity markets also causes confusion in defining the participants in a spot market. The definition of market participants in this claim is essentially a legal question, and I understand that this matter is addressed in Genesis Energy's submission on the draft decision.

14. However, the definition of market participants also has an important economic aspect. In this case, the Authority appears to consider that any party exposed to spot prices is a market participant for the purposes of the claimed UTS. This definition leads to outcomes that are inconsistent with objectives of market efficiency because market participants need to be engaged in the activity of trading in the spot market to change their behaviour (ensuring efficient responses to price signals).

15. The confusion between market participants and exposure to spot prices is most clearly highlighted in paragraph 137 of the draft decision, which states that:

> *As a result of the events of 26 March 2011, these parties [customers exposed to spot prices] are more likely to opt for fixed price/variable volume (FPVV) contracts with retailers, substantially reducing the potential level of demand-side management available to the market.*

16. Clearly, market participants that were capable of responding to the high prices on 26 March 2011 would have reduced their demand. However, parties that are exposed to spot prices through their retail contracts, but that are not direct market participants, will have varying ability to manage their demand in real time. These parties also may not have the information, resources or intention of monitoring spot prices. Accordingly, high spot prices may have a limited influence on the level of demand-side response from these consumers. For these customers, a fixed price variable volume contract may well be an entirely appropriate and efficient risk management option as they do not bring any demand-side participation to the market.

17. Even market participants (that actively trade and monitor spot prices) face difficulties in reducing their demand as spot prices rise. For many customers—particularly business and industrial customers—there are technical and operational constraints that limit their ability to interrupt or reduce their electricity demand quickly and easily. However, by adopting a broad definition of market participants in this case, the Authority risks including parties within the ambit of the Code that are not able to manage the risks of spot price volatility, and do not contribute to demand-side response.

18. It makes no sense to expand spot market participation beyond parties that are well equipped to manage risk in the pursuit of enhanced demand-side response. Demand-side response is not always the answer. Rather, an efficient wholesale electricity market incorporates the use of both spot and hedge products—and allows customers to minimise their energy purchasing costs using both of these inter-related markets in ways that are consistent with their risk appetite and their ability to vary consumption in response to price signals.

Occasional price spikes are an essential feature of an efficient spot market

19. The preceding discussion of the inter-related nature of electricity markets and the need to clearly define participants in the spot market sets the scene for considering the effect of high and volatile spot prices.

20. Electricity spot markets, such as those operating in New Zealand and Australia, are characterised by occasional very high spot prices and the occasional emergence of generators that are able to influence prices (known as having a net pivotal position). In almost all circumstances, these price spikes are an essential feature of an efficiently functioning market.

21. Prices serve a crucial function in markets by equilibrating supply and demand. Where the market has an excess of supply over demand (even during peak periods), spot prices will remain relatively low and stable. This reflects the fact that competition between surplus generators drives prices down towards the short run marginal cost of the most expensive plant needed to meet demand. However, in times of scarcity—caused by either high demand, low supply, transmission constraints or some combination of all these factors—it may become profitable for generators to offer capacity at higher prices because they will still be dispatched.

22. The higher prices that result during times of scarcity serve both to signal the need for investment and to allow all generators—including the highest-cost generator—to recover fixed costs. Because peaking plants run very infrequently (a few hours each year), commercially viable investments in these plants will need to recover fixed costs across a very few trading periods, which implies very high prices. The ability of generators to offer and receive these high prices arises because at times of scarcity they have a net pivotal position.

High spot prices create incentives for efficient risk management

23. High spot prices help to signal an efficient level of investment in generation, particularly for peaking plants needed to ensure reliability when demand is greatest. Overall, investment signals are a function of both spot and hedge prices for merchant plants, while retail prices will play a role for investment decisions made by gentailers.

24. Perhaps an even more important role of high spot prices is to create incentives for efficient risk management. A generally accepted principle of efficient risk management is that to minimise the costs of any transaction, risks should be allocated to the party best able to manage them.

25. To manage the risk of spot price volatility, participants in the wholesale electricity market have a range of options available, including:

- **Fully hedging all load**—a whole of meter swap or a standard fixed price variable volume retail contract where the customer takes no price or volume risk
- **Partial spot price exposure**—for example a cap contract covering all load so that the customer takes some price risk but the cap strike price limits the risk, or perhaps an arrangement where a customer takes some volume risk—the cap could be set to either expected load or peak load, and
- **Full spot price exposure**—where the customer takes all price and volume risk—coupled with the ability to reduce consumption where possible and accept occasional price spikes as the offset for the thousands of hours of excess supply where they enjoy low prices, and the non-payment of any hedge premium.

26. The purpose of the Code is to ensure that market arrangements provide the optimal incentives for efficiency, including through the efficient use of risk management tools. Efficient *ex ante* incentives may lead to outcomes which, when evaluated from an *ex-post* perspective appear to be less than socially optimal. This is because when people take risks, they will from time to time suffer regret, and will realise with the benefit of hindsight that they should not have taken those risks. This is precisely why it makes no sense to evaluate a market from the

perspective of whether risk taking resulted in everyone being a winner. Rather, the key question is whether the market encouraged efficient risk taking.

Imposing a hedge market price on spot market outcomes does not work

27. The draft decision appears to confuse important distinctions between spot and contract markets, by using medium term concepts (such as new entry) in setting expectations for short term (spot market) outcomes. For example, Table 3 of the decision clearly represents hedge price comparisons, but is used as a basis for commenting on the spot prices observed on 26 March 2011.

28. This is entirely inappropriate. While the LRMC of a peaking generator with a 1 percent capacity factor may well be approximately $3,000/MWh, this bears no relationship to specific spot market offers in periods of scarcity which may be lower or higher as the plant's owner bids in the face of uncertainty about its actual capacity factor.

29. Even if the generator was negotiating with a party for a hedge for the twelve hour period of the transmission outage, the hedge price offered would reflect the uncertainty that there would be sufficient periods of future scarcity for the achievement of the 1 percent capacity factor. The LRMC would only form the basis for price negotiations between the parties if the hedge essentially guaranteed 87.5 hours of operation—for example a callable swap with a take or pay minimum quantity.

30. Whatever assumptions one makes about the calculation of the LRMC of a peaking generator, these calculations are at best an indicator of what a reasonable hedge price may be. They tell us absolutely nothing about what a reasonable spot price should be.

31. Throughout this report, I highlight the serious effects that the Authority's confusion between spot and hedge markets would have on expected prices and system reliability, if the draft decision is implemented.

3 Market Outcomes Compared to Expectations

32. In Section 2, I outlined some important features of well-functioning markets for electricity—highlighting the inter-relationships between spot, hedge and retail markets. In this section, I evaluate the events of 26 March 2011 against the features expected in well-functioning markets.

33. The draft decision finds that a UTS existed because of a combination of the following circumstances:

- **Prices were high**, higher than had been seen before in the New Zealand market
- **The high prices were not foreseen**, even by experienced and sophisticated market participants
- **Participant response was limited**, due to the nature of the event, response by demand-side or generation participants did not occur;[1] and

[1] We were told that at least one sophisticated demand-side participant did respond to high prices in real time by reducing their consumption. If that party had a fixed volume hedge contract (or its own generation capacity) then it will not only have assisted maintaining supply on 26 March 2011, but would also benefit financially from its actions.

- **The event threatened the integrity and reputation of the market**.

34. I evaluate each of these four justifications for a UTS against the expectations of a well-functioning market under the sub-headings below.

Prices were high

35. The Authority acknowledges (at paragraph 119 of the draft decision) that high prices do not indicate that a UTS has occurred *per se*. In a well-functioning spot market occasional price spikes are necessary and desirable to:

    - Signal scarcity
    - Allow all generators (including the most costly generator needed to ensure reliability) to recover their fixed costs, and
    - Provide incentives for participants to manage risks, including through hedge and retail products.

36. In my view, the evidence in this case suggests that the prices on 26 March 2011 contribute to achieving these desirable features of a spot market. The most powerful evidence that the market functioned as expected is that on the following Saturday, when a similar transmission outage and constraint existed, price spikes did not occur. We understand that this is largely because the high prices on 26 March 2011 created incentives for market participants to hedge and manage their demand more closely. Several UTS claims highlight the greater demand-side attention to spot market outcomes achieved on the following Saturday.

37. While opportunities existed for parties to hedge before the event on 26 March 2011, market participants chose not to take advantage of those opportunities. In contrast, the following weekend hedge contracts were concluded and parties appear to have managed their risks better overall.

38. I also note that the prices that occurred on 26 March 2011 were not significantly higher than the Australian market price cap of approximately $NZ17,000. The Australian price cap is set as an estimate of the value of lost load, and most participants in the New Zealand spot market would be familiar with the level of the Australian price cap.

The high prices were not foreseen

39. The Authority places weight on the fact that even supposedly sophisticated market participants did not foresee the high prices that occurred on 26 March 2011. In fact, high prices in spot markets are not predictable—if they were there would be little need for effective risk management practices such as hedging or vertical integration.

40. Electricity spot markets by their nature are not perfectly predictable. While demand, generator availability, and transmission capacity are all forecast, these forecasts are all subject to change in real time. A sudden cold snap can cause demand forecasts to be underestimated, generation units may become unavailable due to failure or unplanned maintenance, and transmission constraints can bind with little warning.

41. Hedge markets exist because market participants have different appetites for risk, and some participants are prepared to pay a premium for certainty and predictability. Viewing the spot market in isolation, it may seem unfair or even unconscionable that purchasers of electricity would be exposed to high prices that they could not see coming. However, in properly understanding the role of

the hedge market, it is clear that predictability is a matter of degree and can be managed by participants in this market.

42. The answer to managing unpredictable events that have financial consequences is insurance—that is arranging medium or long term cover before the event, or as events occur. This can be achieved by hedging products, such as cap contracts or callable swaps, or as with all insurance products by assessing the likely occurrence of random events and their financial consequences against the cost of cover.

43. Applying these principles to the events of 26 March 2011, it is worth considering whether the purchasers of electricity that were exposed to high spot prices are actually made worse off by their risk management decisions. Over a short time period, such as one month, purchasers that chose to take spot exposure would clearly be worse off than if they had decided to hedge or take a fixed price retail contract. However, over a longer time period (which is more relevant to the electricity purchasing decisions of businesses) the savings from purchasing at relatively low spot prices (when supply is abundant) may in fact outweigh the additional costs during high price periods (when supply is scarce), such as on 26 March 2011.

44. Figure 3.1 presents my estimates of the total electricity purchasing costs that would be borne under three different risk management strategies over a five year period to March 2011, using spot prices at the Otahuhu node for a nominal flat load of 1MW. The location of the node is important, because purchasing decisions (whether to accept spot exposure or hedge) are location-specific in the electricity market. The three strategies considered are:

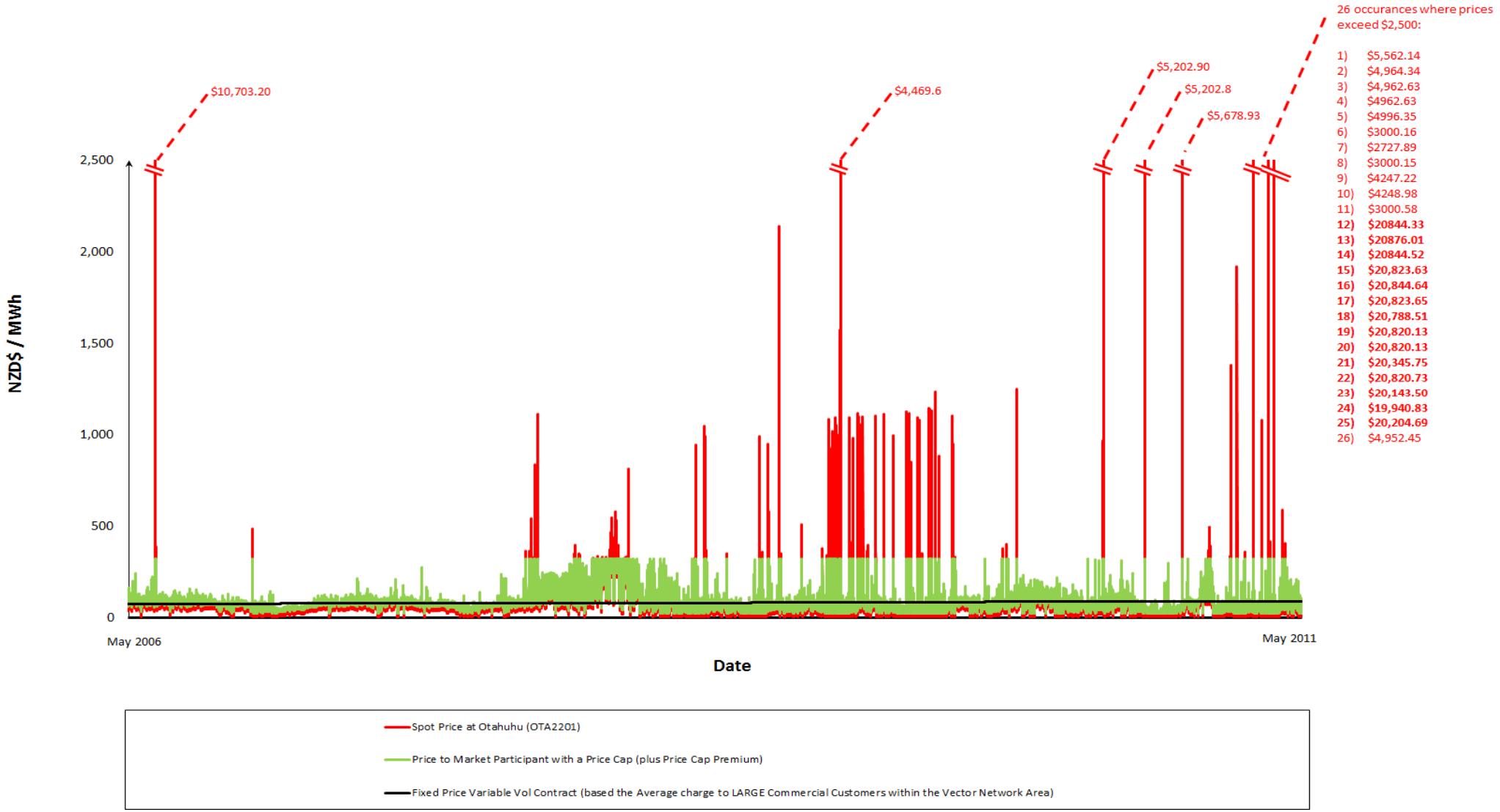
- 100 percent spot price exposure (shown in red)
- Spot price exposure with a $300 cap (shown in green)
- Complete insulation from spot prices under a retail contract (shown by the black line running across the graph).

45. The annual premium for the cap contract is calculated to recover the fixed costs of an OCGT generator—capital and fixed maintenance—minus the difference between the cap strike price and the plant's SRMC (the profit earned when operating), assuming a nominal 1 percent capacity factor. I have used the cost data in the Authority's draft decision and the associated marginal cost calculator. The resulting cap premium is $23.68/MWh.

46. I have estimated the 'energy only' price of a retail contract at $83.72/MWh based on data from the annual Ministry of Economic Development electricity pricing survey for a large commercial customer.

47. The results of this analysis are that even including exposure to the high prices on 26 March 2011, a customer with full spot exposure would have paid 26 percent *less* for electricity than buying a cap contract, and 19 percent *less* than under a retail contract. I note that caps are not actively traded in the New Zealand market—and this analysis shows why.

Figure 3.1: Costs of Electricity under Different Purchasing Strategies



48. This analysis does not aim to refute the claims of financial hardship made by parties exposed to the high spot prices on 26 March 2011. I would fully expect the events to have caused significant cash flow problems for those parties. However, this analysis shows that by complaining about high spot prices, the parties exposed to spot prices are seeking to capitalise the profits they have previously made through their spot exposure, while socialising the costs when their risk management decisions have adverse results. In Section 5 of this report, I discuss the serious moral hazard problems this conduct would create if the Authority's draft decision is implemented.

49. The Authority should also question whether in fact a sophisticated trader should not have foreseen the high prices on 26 March 2011. The variation between forecasts of demand, prices and generator availability appear to fall within a reasonable range, as can be seen in the factual evidence presented in the Genesis Energy submission. Furthermore, the high offers made by Genesis Energy were visible in the market and known by market participants. The high prices that eventuated were simply a combination of these factors, and I believe should have been foreseen by a sophisticated trader.

50. The Authority states in paragraph 118 of the draft decision that "although high electricity prices in New Zealand are possible and occur from time to time, it is clear that the interim prices between trading periods 22 to 35 on March 26 2011 are an exceptional circumstance". The fact that such prices have not occurred in the recent past does not mean that such prices are not foreseen. The Authority relies in its analysis on the concept of price squeeze, drawn by Kieran Murray from the experience of the commodity markets. I discuss the concept of price squeeze in more detail in Section 4 of this report. Of relevance to foreseeable prices, I note that the United States Commodities Futures Trading Commission has dismissed historical price comparisons by finding that "the prospective behaviour of a 'normal market' is not bounded by the market's historical experiences".[2]

Participant response was limited

51. As I mentioned in Section 2, there are economic, operational and practical reasons why demand-side response does not occur in all circumstances, even when prices rise above an individual customer's value of lost load.

52. Response by generation to high prices can also be muted by practical considerations. There are high costs, in fuel and maintenance (and useful life) in starting thermal plant. If the participant perceives that a price spike will be short in duration, it may not be economic to bring additional plant online. The two hour gate closure before the dispatch interval in New Zealand also limits the flexibility of generation response. I understand that Genesis Energy has in the past made a request to the Electricity Commission to pursue a reduction in the gate closure interval to improve market efficiency through greater generator responsiveness to market events.

53. Even putting these considerations aside, the fact that participant behaviour in hindsight may not have occurred as expected, is not *per se* an indication that the market is not well-functioning. While the Authority should investigate ways to improve demand response (for example by ensuring that market participants have

[2] *In re Cox*, Commodities Futures Trading Commission, 1987

information and share this information with customers exposed to spot prices), these concerns clearly fall outside of the UTS provisions.

The event threatened the integrity and reputation of the market

54. In Section 2, I noted that in investigating a UTS the Authority needs to consider how the spot, hedge and retail markets work together, and that any analysis of price spikes should not focus on spot market impacts alone. I also noted that the draft decision appears to confuse important distinctions between spot and contract markets, by using medium term concepts (such as new entry) in setting expectations for short term (spot market) outcomes.

55. On 26 March 2011, hedges were available, both prior to and during the event. The fact that not all market participants purchased hedge cover does not necessarily suggest a problem in the functioning of the market. It could instead indicate that participants were pursuing trading strategies that carried a greater degree of risk than is optimal, or than they could afford to take. With respect to retail customers with spot exposure, it may indicate that some have taken on such exposure without fully understanding its consequences, or as a result of being poorly advised.

4 Misapplication of "Price Squeeze" Concept

56. The draft decision finds (at paragraph 142) that on 26 March 2011 Genesis Energy applied a squeeze on the wholesale market for electricity that resulted in prices at exceptional levels in Hamilton and regions north of Hamilton. The concept of a price squeeze was introduced by Kieran Murray in an expert witness statement dated 6 April 2011, which traces the origins of the concept to commodity markets and discusses some of the necessary components for proving a price squeeze.

57. In this section of my statement, I review the application of the price squeeze concept to the finding of an Undesirable Trading Situation. I focus on answering the following two questions:

- Does a price squeeze constitute a UTS?
- Does Genesis Energy's conduct on 26 March 2011 constitute a price squeeze?

58. I also comment on whether the market rules in the Australian National Electricity Market (NEM) would be consistent with finding a price squeeze occurred in this case.

Does a price squeeze constitute a UTS?

59. This is the first time that a price squeeze has been found to have existed in the New Zealand electricity market (under the Code or preceding market rules). The novel application of the concept in this case calls for a careful analysis of whether a price squeeze constitutes a UTS. In my view, the expert witness statement provided by Kieran Murray and the Authority's draft decision do not establish that a price squeeze constitutes a UTS under the Code.

60. As discussed in the draft decision, the concept of a price squeeze has an established meaning in commodity markets. The Commodity Exchange Act makes it an offence to "corner or attempt to corner" a commodity market, which has been interpreted to include the practice of a price squeeze. The application of

the concept of a price squeeze in commodities markets has at least two components:

- **The exercise of market power**—the party effecting the squeeze is able to "name its price" because it knows the maximum price that buyers will be prepared to pay (the cost of defaulting on futures contracts), and
- **Market manipulation**—the party effecting the squeeze has acquired the ability to name its price through intentional "fraud and deception", rather than market dominance alone.[3] Mere concealment is "not sufficient to show that actions are not legitimate forces of supply and demand".[4]

61. In the draft decision (at paragraph 99), the Authority acknowledges that the first of these elements (the exercise of market power) does not establish a UTS. Participants are entitled to use a transitory net pivotal position, and as discussed above, the unhindered use of a net pivotal position plays an important role in ensuring that investment needs are signalled.

62. Since high spot prices result from the transitory net pivotal position, concluding that a UTS has occurred simply because prices were high—absent evidence on the misleading conduct—is tantamount to using the UTS provisions of the code to regulate temporary market power. While I cannot comment on whether such application of the Code would be legally permissible, I can state unequivocally that it would be very poor policy and would impede market efficiency.

Does Genesis Energy's conduct on 26 March 2011 constitute a price squeeze?

63. Even if the Authority were to decide that a price squeeze would constitute a UTS in this market—with all the negative consequences such a decision would have for the functioning of electricity markets—the components of a price squeeze are not present on the facts of this case.

64. I understand that the facts set out in the draft decision are not substantially in dispute. The question is therefore whether Genesis Energy's conduct in offering its generation into the market at high prices is consistent with the finding of a price squeeze.

65. The first factual requirement that is missing in this case is intent. There is no evidence of a deliberate attempt by Genesis Energy to create market power. In commodity markets, this generally occurs where a participant tries to construct a structural monopoly from initially varied holdings (by purchasing long contracts on the futures markets, while acquiring control of physical deliveries within a particular geographic area).

66. In contrast, Genesis Energy was offering to sell hedge contracts during the period when the alleged squeeze took place. If Genesis Energy intended to cause a price squeeze on 26 March 2011, then it would have been buying hedges up until the time of the squeeze, or refusing to contract with other participants.

67. The second factual requirement missing is manipulation of the market. None of the facts found by the Authority suggest that Genesis Energy deliberately concealed or misrepresented its market position to mislead other participants

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[3] See for example *In re Cox* Commodities Futures Trading Commission, 1987.

[4] *U.S. v Radley*, U.S. District Court for the Southern District of Texas, 2009, at page 17. Available online at http://www.justice.gov/criminal/vns/docs/2009/sep/09-17-09radley-dismiss.pdf

about market structure. Genesis Energy's offers were known to other participants well in advance of gate closure (which occurs two hours before real time). The importance of Huntly generation in ensuring supply north of Hamilton when transmission is not fully available is also well known to market participants. Of course, retail customers with exposure to the spot price may not have that information, but this lack of knowledge is irrelevant since they are not market participants. The extent of their knowledge and understanding is only relevant to assessing whether they were wise to purchase a retail product which exposed them to risks which they should have avoided by purchasing alternative products.

68. Other participants were certainly aware of the possibility that very high prices would eventuate if demand was higher than forecast, or if any supply became unavailable. This is reflected in the interest of Mighty River Power seeking hedge cover. The facts also show that once price forecasts were reduced, these participants chose to take the risk of those high prices returning in real time (forecasts are always subject to change in real time).

69. The third factual requirement missing is an ability to unilaterally set prices. The Authority has found that the high prices would not have occurred if the demand forecast had been more accurate, or if Contract Energy had not removed its Taranaki Combined Cycle plant from the market. Both of these factors are outside of the control of Genesis Energy.

Australian experience in similar events supports absence of UTS

70. I am not aware of any other competitive wholesale electricity market that has applied the concept of a price squeeze. One commentator in the United States has suggested that in the United States *"the price squeeze claim is almost certainly a losing one in a deregulated electricity power industry"*.[5]

71. Kieran Murray suggests that the trading rules of the Australian National Electricity Market prohibit a price "squeeze" through requirements to bid in good faith. In my view, the example of the NEM supports a very different conclusion. This is because the Australian Energy Regulator (AER) has consistently declined to find any breach of market rules during high price events, many of which exhibit striking similarities to the present case.

72. The issue of high prices and market manipulation has received prominence in Australia, with much of the attention focusing on generator re-bidding (the gate closure in Australia is effectively zero compared to 2 hours in New Zealand). Due to this heightened level of scrutiny, the AER has developed clear processes for reporting on any events when the wholesale spot price exceeds A$5,000/MWh.[6]

73. An example of a high-price event reported by the AER took place in Victoria on 22 April 2010 (several other events are similar in nature).[7] The AER report summarises the facts of that event as follows:

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[5] See Goelzhauser, G "Price Squeeze in a Deregulated Electric Power Industry" Florida State University Law Review, Volume 32: 225 at p255.

[6] These reports are regularly published by the AER at http://www.aer.gov.au/content/index.phtml/itemId/714860

[7] Available online at http://www.aer.gov.au/content/item.phtml?itemId=736687&nodeId=e46647cafffff771aacffeb11446b65bb&fn=Prices%20above%20%245000/MWh%20-%2022%20April%202010%20-%20VIC%20.pdf

- Planned transmission line outages restricted flows into Victoria from South Australia and New South Wales. Another unplanned transmission outage restricted flows into Victoria from Tasmania
- Prices forecast a day-ahead rose to almost A$10,000/MWh (the maximum spot price in place at the time) due to offers from particular generation plants located behind the constraint
- Forecast prices fell to less than A$40/MWh as parties re-bid their capacity and managed their risk positions
- Real time prices rose to almost A$10,000/MWh several times between 12.30pm and 4pm.

74. The AER did not find that this event was caused by any undesirable practice on the part of the generator concerned, or that bids were not made in good faith.

75. Interestingly, in the Australian market, if the AER does make a finding of "bad faith bidding" the remedy is a civil penalty of up to $1 million against the participant—**but crucially the spot prices for the period remain unchanged**. While I am not making any comment on how to interpret the concept of "good faith bidding", it is instructive that the Australian approach shows extreme reluctance to re-set historical prices. Overall, I draw quite different inferences from the Australian experience than Kieran Murray does in his report.

5 Impacts of the Draft Decision

76. In my opinion, if the draft decision stands it will tend to undermine the efficiency of the market as a whole and create a series of moral hazard problems. The decision will:

- Adversely affect the depth and liquidity of New Zealand's hedge market for electricity
- Encourage customers to continue to take spot exposure when they are not best placed to manage the resulting risks, increasing the overall cost of electricity over the long term
- Create uncertainty over future offer behaviour by setting a low bar for establishing that a UTS exists
- Adversely affect new investment in generation (particularly in peaking plant), potentially undermining system reliability.

77. These are very serious consequences that have the potential to shape New Zealand's electricity market for years to come.

78. The proposed remedy is also problematic—the revision of prices by inferring bids *ex post* is not a simple process and is highly likely to have unintended consequences.

Adverse effects on the depth and liquidity of New Zealand's hedge market for electricity

79. The effect of the draft decision—if it stands—would be to communicate to sophisticated market participants that, in future, there may be no need to purchase cap products to insure against "exceptional or unforeseen" events or potentially even a material variation between forecast and actual demand. The

current UTS decision will encourage aggrieved out-of-the-money customers or market participants to pursue similar claims during future high price events, and the Authority will find it increasingly difficult to avoid establishing a precedent if it wishes to apply consistent logic. Once the precedent is established, market behaviour in response to risk will be permanently distorted. The risk of high spot prices in circumstances when there is a material variation between forecast and actual demand will be largely taken off the table by the Authority. Since the Authority will be expected to re-set the spot price by reference to an expected hedge price, hedge contracts will no longer be required. In effect, participants that underestimate the risk of unpredictable price spikes may come to expect regulatory protection from the consequences of their risk management decisions.

80. At the same time, market participants that have adopted a conservative or risk averse approach to purchasing electricity (and therefore purchased hedge cover for 26 March 2011), will feel understandably aggrieved. Parties holding contracts for differences above their actual demand levels will have their revenues substantially reduced by the revision in prices. Parties that hedged at a level equal to their actual load will question why they have been paying hedge premiums, and would rationally increase their risk appetite.

81. All parties (hedged or unhedged) will have substantially reduced incentives to participate in the hedge market in the future. Through this decision, the Authority would effectively position itself as the hedge provider of first resort in any "exceptional" and "unforeseen" events where "it was too late for participants to take action". The Authority needs to understand the potentially vast set of market circumstances that would meet this threshold.

82. The adverse effects of this decision on the hedge market if it is allowed to stand should be particularly concerning to the Authority, given the substantial resources devoted by the Authority and the Government to strengthen the New Zealand hedge market and improve its depth and liquidity. The state of the hedge market in New Zealand is often contrasted to Australia, where the hedge market is considered to be deep and liquid. Price spikes in Australia provide powerful incentives for participants to hedge, and I believe that the opportunity for New Zealand's hedge market development will be seriously set back by the UTS decision.

Encouraging customers to continue to take spot exposure when they are not best placed to manage risks

83. The draft decision will encourage non-sophisticated players to continue to take spot exposure. The Authority appears to consider that this is a good thing—or at least, it seems to consider that high spot prices are bad because they may discourage some customers from taking spot exposure. I believe this logic is erroneous for two reasons. First, while increased participation in the spot market is good in aiding efficient price discovery, an increase in the number of customers with retail contracts exposing them to spot prices may have little effect on price discovery. Second, increased spot exposure by parties that do not understand the consequences and may not be able to reduce consumption in the required timescale will reduce the efficiency of the New Zealand electricity market.

84. People will, from time to time, make wrong choices with respect to risk exposure. In an efficient market, they will be expected to learn the painful lesson, and to make better choices in the future. The experience of 26 March 2011 encouraged more prudent behaviour the following weekend, when similar conditions led to

quite different price outcomes. The draft decision will prevent such difficult lessons from being learned. In contrast, parties will quickly learn that when high prices occur they effectively hold a free contract—by submitting a UTS claim based on a "price squeeze". The Authority should be concerned that the frequency of such claims will increase substantially as a result of this decision. Since any high price event is likely to leave someone out of the money, it will be irrational not to pursue UTS claims whenever spot prices exceed hedge prices.

85. The decision will also encourage retailers and electricity procurement specialists to continue to provide advice to customers of the benefits of spot exposure, without their customers fully understanding the risks involved. Rather than holding these advisors accountable for the advice provided to consumers, the decision effectively insulates these parties from their actions. This is in stark contrast to regulatory developments in other sectors (such as financial advisory), where accountability is increasing. Poor information about risk exposure will in the long run result in inefficient risk management, higher costs, and hence in higher overall prices.

Creating uncertainty over future offer behaviour by setting a low bar for establishing that a UTS exists

86. The draft decision sets a relatively low and nebulous bar for a UTS declaration—"exceptional", "unforeseen" events where "it was too late for customers to take action". The decision also effectively sets a default price cap of $1,500/MWh to $3,000/MWh that will apply in those circumstances.

87. This will create considerable uncertainty for future generator offers. A generator must now consider if the circumstances in this period could be construed as a potential UTS claim. If the answer is yes, then these parties must consider:

- Capping their offers at $3,000/MWh (which as discussed above is a hedge price estimate, not a spot price estimate)
- Informing other market participants of their belief that prices will be high (creating significant risks under the Commerce Act for price signalling)
- Informing the market of the generator's net pivotal position
- Offering hedges to the market at deliberately low prices to ensure they are accepted.

88. These expected outcomes are not fanciful or extreme. These are the reasons given in the draft decision for finding a UTS on 26 March 2011. Any market participant that wants to avoid a UTS claim, will at least consider these actions.

Adverse effects on new investment in generation, particularly in peaking plant

89. In the draft decision the Authority uses a long run marginal cost calculation of a peaking generator at an assumed capacity factor to calculate proposed revised prices—a cap of between $1,500MWh and $3,000/MWh. The result of this *de facto* $3,000/MWh cap is that the incentives to invest in new plant are likely to be seriously undermined.

90. While the Authority may claim that this price will only apply in the peculiar and unique circumstances such as occurred on 26 March 2011, in fact this decision will be viewed by market participants (buyers and sellers) as a precedent. The criteria and reasons for the draft decision are broad, and most likely would apply to many previous high priced events in the spot market. This is also the first UTS

decision made by the Authority, so will be seen as defining the Authority's thinking and approach to claims of this nature.

91. There is always a margin of error in calculating LRMC or demand-side response. Unless the Authority has this calculation perfectly correct, the incentive to invest in appropriate plant will be distorted, and market security undermined.

92. This creates clear implications for system reliability. A $3,000/MWh cap implies that there is no financial incentive to construct a peaking generator that operates for less than the 1 percent capacity factor assumed by the Authority (87.5 hours per year). Simplistically, this implies that any peak demand or other scarcity that occurs for less than 87.5 hours per year will not be served.[8]

93. While the calculation is not exact, a price cap in a spot market translates directly into a theoretical level of reliability. While the Australian market has quite different characteristics and dynamics, the market price cap of approximately $NZ17,000 is explicitly calculated on a long run average unserved energy of 0.002 percent. The New Zealand market also uses a value for VOLL of $20,000/MWh to evaluate the economics of transmission investment proposals.

94. I also note that the calculation made by the Authority is conceptually flawed:

- The Authority confuses the spot and hedge markets by suggesting that a peaking generator with a forecast 1 percent capacity factor would offer capacity to the spot market at its LRMC at that factor—about $3,000/MWh. However, in a particular offer period since there is no certainty that the generator will achieve its target of a 1 percent capacity factor on average, a commercial offer will be "what the market will bear" rather than LRMC. The material start costs for a thermal generator to provide energy for a short duration are also ignored
- In the calculation, the capital cost of Huntly is ignored as it is already constructed—it is treated as a sunk cost. While this is theoretically correct, this calculation sends a strong signal that the Authority is willing to regulate prices to a level which expropriates capital investment. Genesis Energy is entitled to attempt to recover the fixed costs of the Huntly Power Station. A regulatory calculation which ignores this for existing plant sends a signal to future investors that the same expropriation may affect them once they sink their capital.
- The Authority states that one of the factors for declaring a UTS was that it was too late for users to take action to avoid their liability to pay the prices. However, paragraph 165 of the draft decision states that "the Authority is contemplating $3,000/MWh as the price floor to apply during rolling outage load shedding to reflect the lower cost that pre-notified power cuts might be expected to impose on consumers". By this logic, if there was no pre-notification of the alleged UTS prices, then a higher value of unserved demand—closer to the Australian estimate of $NZ17,000/MWh—should be the revised price. Alternatively, if the UTS was pre-notified—then under the Authority's own reasoning it wouldn't have been a UTS.

[8] The actual calculation is rather more complex, taking into account reserve margins, plant failure probability and probability around peak demand.

Revising the spot price *ex post* may have unexpected and adverse outcomes

95. In the draft decision, the Authority proposes to remedy the alleged UTS by re-running the SPD using its price cap for Huntly and the weekly dispatch schedule for other generation. Since market offers are informed by their net position, it is likely that the use of these previous offers may not reflect the position of participants and may have adverse consequences. There is also a high degree of subjectivity and lack of transparency in the process—how, for example, does the Authority propose to "adjust" bids so that the retrospective SPD generator dispatch targets mimic actual dispatch? The potential for unintended consequences is likely to be high.

96. Finally, the re-run of the SPD cannot take into account the offers of participants who did re-act to the events of 26 March 2011 and replace them with offers that they might have hypothetically taken if lower prices had been signalled.

97. The Authority is proposing to re-set the settlement price because it believes that the random wins and losses which resulted from the events of 26 March 2011 undermined the credibility of the market. It is unclear to me why the random wins and losses that would result from the re-run of the SPD would be any less damaging to the credibility of the market. The Authority believes that the re-run would simply limit the losses for those who suffered them on the day, and limit the wins for those who enjoyed them. In reality, the new settlement price will have an effect on other parties holding contracts for differences.

6 Conclusion

98. In my view, the draft UTS decision represents a dramatic regulatory intervention, with effects that go well beyond the retrospective effects on the parties that experienced wins and losses on 26 March 2011. The decision will artificially conflate spot, hedge and retail markets in New Zealand, and will cause distortions to all of the markets. It will undermine incentives for efficient risk management, instead creating strong incentives for "regulatory hedging"—seeking to use regulatory interventions to manage market risks.