

30 April 2020

Tony Baldwin
Chair
MDAG
Electricity Authority

By e-mail: MDAG@ea.govt.nz

Dear Tony,

Electric Kiwi and Haast welcome MDAG's trading conduct proposals

Electric Kiwi and Haast Energy Trading support:

- The Authority adopting stringent market monitoring and enforcement of the trading conduct rules (regardless of whether the current HSOTC rules are changed or not).¹ We strongly support a much larger, well resourced and pro-active Compliance Team. The Authority has already indicated it intends to improve its market monitoring and enforcement and does not need to wait for the MDAG final recommendations report;
- The trading conduct rules being amended to make it explicit that use of significant market power and behaviour inconsistent with workable competition is in breach of the Code;
- The MDAG's draft trading conduct Code Amendment Proposal, subject to the independent retailers' recommended enhancements;² and
- Consistent with the independent retailers' recommendations, enhancements to MDAG's proposals to ensure: (i) the new trading conduct rules are not permissive of short-term abuse of market power by clarifying that significant market power includes transient market power, and (ii) forms of market abuses such as market manipulation and insider trading are still covered in the Electricity Industry Participation Code (the Code).

In addition, while MDAG has focussed on potential abuses of market power which could result in outcomes that are inconsistent with workable competition, there are other elements of the Code which could also impede efficient pricing and competitive market outcomes. For example, while clause 13.15 of the Code explicitly states "There is no upper limit on the prices that may be specified" it includes a price floor/"lower limit" of \$0.00/MWh. Negative prices can be observed in other markets, with the oil industry and banking providing recent examples. MDAG should recommend that the Authority review whether the price floor on wholesale electricity offers should be removed.

Summary of Electric Kiwi and Haast's views

- **Meridian foresaw abuse of market power would be an ongoing issue:** Meridian's 100%-owned subsidiary warned in 2011 "... we remain fearful that ... manipulations (albeit with lower price outcomes) may become more prevalent in the market, leading to higher and more volatile wholesale energy prices, and in turn prices faced by consumers" [emphasis added].³ Meridian also expressed concern high prices would be the "new normal" if Code reform didn't address transient market power.⁴

¹ We consider the Authority should adopt more stringent monitoring and compliance enforcement for all elements of the Code, including HSOTC and wholesale information disclosure.

² Joint submission from Ecotricity, Electric Kiwi, energyclubnz, Flick Electric, Pulse and Vocus, Independent retailer recommendations for enhancements to the MDAG draft Trading Conduct Code Amendment Proposal, 30 April 2020.

³ Meridian (Powershop), Draft decision of the Electricity Authority under Part 5 of the Electricity Industry Participation Code regarding an alleged Undesirable Trading Situation on 26 March 2011, 13 May 2011.

⁴ Meridian, Proposed Actions regarding 26 March 2011 UTS, 21 June 2011.

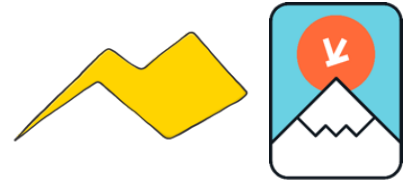


- **MDAG has provided clear evidence of ongoing abuses:** Meridian’s fears about ongoing abuse of market power are borne out by the evidence MDAG has provided of mis-use of market power and potential breaches of the HSOTC rules. Meridian has intimated it continues to use its market power to manage locational price risk, and appears to be concerned the proposed new rules could prevent this behaviour.⁵
- **The MDAG problem definition should include market concentration measures and the extent to which gross pivotal situations arise at the sub-Island level:** MDAG found there is high frequency (ranging from 93 to 100% in the South Island) when generators are gross pivotal. MDAG should also test the extent to which generators are gross pivotal at a sub-Island/nodal level. MDAG’s findings are supported by evidence of high and enduring levels of market concentration in the wholesale electricity market. The level of market concentration in the wholesale electricity market essentially has not changed in the last decade.
- **We support adoption of stringent market monitoring and enforcement:** The Authority should adopt MDAG’s proposed recommendation for stringent market monitoring and enforcement of the trading conduct rules, regardless of whether (or how) the current HSOTC rules are changed.
- **MDAG’s proposed trading conduct drafting is clearer than the existing HSOTC provisions, with regards to spot market offer behaviour.**
- **Electric Kiwi and Haast support trading conduct rules** that promote the long-term benefit of consumers in the electricity industry by promoting outcomes **that are consistent with workable competition**. The proposed purpose should be amended to align more tightly with workably competitive market outcomes rather than “competitive market” outcomes and “efficiency outcomes”.
- **The MDAG proposals’ reference to workably competitive market outcomes is incomplete:** The trading conduct rules should be explicit that competitive market outcomes, or workably competitive market outcomes, include limitations on the extraction of excessive revenue and returns, consistent with High Court precedent that competitive market “... outcomes include the earning by firms of normal rates of return, and the existence of prices that reflect such normal rates of return, after covering the firms’ efficient costs” [emphasis added]. Any such excess returns are evidence of inefficient pricing⁶ and are detrimental to consumers.
- MDAG have understated the benefits of trading conduct reforms, as it has only considered (narrow) efficiency benefits and not the (larger) consumer price benefits. While the CBA results are still positive, **reduction in wealth transfers from consumers is likely to be the most substantial benefit**. If MDAG undertakes quantified analysis it should follow Electricity Authority precedent from the distributed generation pricing principles review and detail both efficiency and price benefits.
- **We do not challenge MDAG’s judgement about the extent to which it is reasonably practicable to undertake quantitative CBA.** MDAG could consider quantifying the benefits by using (more) competitive market outcomes as a proxy for the benefits of its proposals.⁷ Haast undertook conservative quantified analysis of a workably competitive market outcome for the December 2019 UTS and HSOTC code breach complaint. Based on this analysis avoiding a single event of this nature would result in benefits to consumers in terms of lower expected wholesale costs orders of magnitude higher than any likely costs.

⁵ For example, at the Wellington HSOTC workshop.

⁶ Excess revenue or returns are a useful proxy for inefficiency given that the resulting allocative inefficiency/deadweight loss can be difficult to measure due to imperfect information about price elasticity of demand etc.

⁷ These options were well canvassed in submissions to the Electricity Price Review, including Electric Kiwi and Haast’s advocacy for creation of an entirely new pure wholesale hydro SOE.



Haast letters to the Authority and MDAG form part of our submission

The Haast letter “Reporting of Contact and Meridian’s breaches of the High Standard of Trading Conduct requirements and Undesirable Trading Situation”, 12 December 2019, is part of our submission. The letter provides material that supports MDAG proposals and analysis, including:

- The appropriate tests for determining a breach of the existing HSOTC rules;
- That market manipulation and use of market power are overlapping concepts;
- The outcomes that can be expected to be produced in a workably competitive market; and
- The relationship between SRMC and LRMC pricing.

Haast’s two letters to the MDAG Chair “Critique of Concept’s report “Review of impact of trading conduct enforcement action on spot prices””, 2 December 2019,⁸ and “Rebuttal of Concept’s report “Review of impact of trading conduct enforcement action on spot prices – addendum””, 11 February 2020, are also part of our submission.^{9,10}

Meridian submissions on transient market power and SRMC pricing form part of our submission

The following Meridian submissions are also included as part of our submission:

- Meridian, Draft Decision regarding alleged UTS on 26 March 2011, 13 May 2011;
- Meridian, Draft Decision regarding alleged UTS on 26 March 2011 – Cross Submission, 19 May 2011; and
- Meridian, Proposed Actions regarding 26 March 2011 UTS, 21 June 2011.

These Meridian submissions are included in full, with particularly relevant extracts highlighted. While the submissions were made in the context of the Genesis 26 March 2011 UTS breach, Meridian’s views are directly relevant to, and support, MDAG proposals. Meridian was very clear: (i) the Code needs to prohibit use of transient market power, to avoid the risk that “anything goes”, and (ii) the relevant test for whether transient market power is abused is whether offers are in excess of SMRC (not LRMC).

Electric Kiwi and Haast support a workably competitive market outcome benchmark

Electric Kiwi and Haast support trading conduct rules which promote the long-term benefit of consumers in the electricity industry by promoting outcomes consistent with outcomes produced in workably competitive markets. The proposed purpose should be amended to align more tightly with workably competitive market outcomes rather than “competitive market” outcomes or “efficiency outcomes”.

The proposed trading conduct rules should explicitly cover each of the following workably competitive market outcomes:

⁸ <https://www.ea.govt.nz/dmsdocument/26442-haast-energy-trading-critique-of-concepts-report-review-of-impact-of-trading-conduct-enforcement-action-on-spot-prices>

⁹ <https://www.ea.govt.nz/dmsdocument/26498-haast-energy-trading-rebuttal-of-concepts-report-review-of-impact-of-trading-conduct-enforcement-action-on-spot-prices-addendum-11-february-2020>

¹⁰ The MDAG paper’s reference to Haast’s commentary in response to Concept is incomplete as it only mentioned the former letter. Refer to: MDAG, HIGH STANDARD OF TRADING CONDUCT” PROVISIONS: A REVIEW BY THE MARKET DEVELOPMENT ADVISORY GROUP DISCUSSION PAPER, 25 February 2020, footnote 84.



- “... outcomes ... are reasonably close to those found in strongly competitive markets. Such outcomes are summarised in economic terminology by the term “economic efficiency” with its familiar components: technical efficiency, allocative efficiency and dynamic efficiency. Closely associated with the idea of efficiency is the condition that prices reflect efficient costs (including the cost of capital, and thus a reasonable level of profit)” [covered by the MDAG proposal];¹¹
- “prices are not too much or for too long ... above costs” [covered by the MDAG proposal] which includes a normal rate of return (see next bullet point);¹²
- “... outcomes include the earning by firms of normal rates of return, and the existence of prices that reflect such normal rates of return, after covering the firms’ efficient costs” [a gap in the current MDAG proposal]. The MDAG draft Code provides that firms should be able to earn normal rates of return, but is silent that workably competitive markets constrain the extent to which, and circumstances where, prices exceed “such normal rates of return” or that prices that exceed normal rates of return can be evidence of inefficient pricing;¹³
- “... the prices ... will provide incentives for efficient investment and for innovation” [covered by the MDAG proposal];¹⁴ and
- No market participant exercises or uses “significant market power”¹⁵ or “excessive market power” [covered by the MDAG proposal].¹⁶

The trading conduct rules should capture all forms of (mis)use of market power

We share Meridian’s concerns about “abuse of transient market power”,¹⁷ and their concern an “anything goes” regime could develop that permits “taking advantage of transient market power to set arbitrarily high prices [to] become an established feature of the electricity market”.¹⁸

We consider use or exercise of market power, whether it is excessive market power, significant market power, substantial market power, or transient market power is inconsistent with any reasonable definition of a workable competition.

We recommend removing scope for any ambiguity about the interpretation of significant market power, by including clarification that “For the avoidance of doubt, significant market power includes transient market power” or otherwise providing a definition of significant market power that makes it clear it includes transient market power.

MDAG suggest “It is ... argued by some economists that workable competition recognises that episodes of temporary market power can and do occur in workably competitive markets. For example, in Australia, the exercise of “transient pricing power” is generally seen as consistent with workable competition”. Based on some of the comments made at the trading conduct workshops, care is needed not to confuse high prices due to transient market power with high prices due to water scarcity. Meridian has addressed this matter well, submitting that:

¹¹ WELLINGTON INTERNATIONAL AIRPORT LTD & ORS v COMMERCE COMMISSION [2013] NZHC [11 December 2013], paragraph [14].

¹² WELLINGTON INTERNATIONAL AIRPORT LTD & ORS v COMMERCE COMMISSION [2013] NZHC [11 December 2013], paragraph [15].

¹³ WELLINGTON INTERNATIONAL AIRPORT LTD & ORS v COMMERCE COMMISSION [2013] NZHC [11 December 2013], paragraph [18].

¹⁴ WELLINGTON INTERNATIONAL AIRPORT LTD & ORS v COMMERCE COMMISSION [2013] NZHC [11 December 2013], paragraph [20].

¹⁵ WELLINGTON INTERNATIONAL AIRPORT LTD & ORS v COMMERCE COMMISSION [2013] NZHC [11 December 2013], paragraph [15].

¹⁶ WELLINGTON INTERNATIONAL AIRPORT LTD & ORS v COMMERCE COMMISSION [2013] NZHC [11 December 2013], paragraph [17].

¹⁷ Meridian, Draft Decision regarding alleged UTS on 26 March 2011, 13 May 2011.

¹⁸ Meridian, Draft Decision regarding alleged UTS on 26 March 2011 – Cross Submission, 19 May 2011.



It is ... no answer ... to say that high, very high or excessive prices are a necessary part of an efficient spot market because they signal the need for investment and allow generators to recover fixed costs. While prices above SMRC are necessary for the recovery of fixed costs, there is no reason to think that such prices *caused by the taking advantage of transient market power* are necessary to ensure efficient investment or recovery of costs.¹⁹

It is odd to suggest that generators with transient market power should have unconstrained ability to take advantage of that power, or that the resulting price outcomes are an essential feature of an efficient spot market. Rather than signalling the need for investment ... such outcomes are likely to result in a loss of dynamic efficiency. That is, there is no reason to think that high prices caused by the illegitimate exercise of transient market power are necessary to ensure efficient investment or recovery of costs. Investment has occurred in New Zealand in the past without the need for any such illegitimate exercise of market power ...²⁰

The trading conduct rules do not need to prescribe SRMC or LRMC standards

SRMC and LRMC price tests have separate and complementary functions.

We agree with MDAG there is “No conceptual conflict between SRMC and LRMC”.

We also agree with MDAG’s position that “Our proposal does not prescribe whether SRMC or LRMC should be used as the counterfactual. Which is appropriate will depend on the circumstances. For a short term event, SRMC may be best. If the offers in question have longer term implications, a comparison of trends toward LRMC may be better. It will be for the enforcement decision-maker (Authority, Rulings Panel or Courts) to decide”.

MDAG suggest some stakeholders may have “a countervailing concern that using short run marginal cost (SRMC) as the efficiency benchmark may undermine new investment confidence if it were perceived that SRMC did not provide for an appropriate return on capital and risk”. It would be a concern if any generator held such uninformed views. Any such view would reflect a fundamental misunderstanding of the definitions of, and relationship between, SRMC and LRMC. SRMC will, over-time, reflect LRMC in a workably competitive market. Workable competition allows for efficient returns over time.

Consistent with MDAG’s view, Meridian has correctly commented “in normal traditional conditions” “final prices should ... approximate SMRC not LRMC” and “In the absence of an energy or capacity shortage, competitive prices should approximate SMRC not LRMC”.²¹ Meridian has also correctly commented “It is also no answer ... to say that high, very high or excessive prices are a necessary part of any efficient spot market because they signal the need for investment and allow generators to recover fixed costs. While prices above SRMC are necessary for the recovery of fixed costs, there is no reason to think that such prices *caused by the taking advantage of transient market power* are necessary to ensure efficient investment or recovery of costs”.²²

Meridian’s 100%-owned subsidiary has also commented “SRMC provides ... accurate price signals for both buyers and investors”.²³

We agree with Meridian and have similarly submitted:

“... what can be expected is that in the short-term (half-hour by half-hour) pricing is based on SRMC, while in equilibrium (a theoretical construct that is never actually achieved) or on average, over-time, SRMC/prices will tends towards long-run marginal cost (LRMC).

“What this means is that when it is being tested whether prices are consistent with workably competitive markets in any given half-hour, the relevant test is whether generation offers and wholesale electricity prices reflect or exceed SRMC, but when prices are being looked at over an extended period, e.g. over year or longer, the relevant test is

¹⁹ Meridian, Draft Decision regarding alleged UTS on 26 March 2011 – Cross Submission, 19 May 2011.

²⁰ Meridian, Draft Decision regarding alleged UTS on 26 March 2011 – Cross Submission, 19 May 2011.

²¹ Meridian, Draft Decision regarding alleged UTS on 26 March 2011, 13 May 2011.

²² Meridian, Draft Decision regarding alleged UTS on 26 March 2011, 13 May 2011.

²³ Meridian (Powershop), Proposed actions of the Electricity Authority under Part 5 of the Electricity Industry Participation Code to correct the Undesirable Trading Situation on 26 March 2011, 21 June 2011.



whether prices reflect or exceed LPMC. This interpretation is an orthodox economic description of how competitive markets work.”²⁴

We agree with MDAG that the current HSOTC rules are intended to capture use of market power and outcomes that are inconsistent with workably competitive market outcomes

We note and agree with MDAG that “From the various papers leading up to the HSOTC rule and the Authority’s application of it in the case relating to the high price event of 2 June 2016, it seems clear “high standard of trading conduct” is intended to mean that offer conduct should be consistent with an orthodox economic efficiency framework in which the central question is whether the relevant offer would have occurred if the market in the relevant trading periods had been effectively competitive”.

For the avoidance of doubt, we consider the current HSOTC rules are not only intended but actually “mean that offer conduct should be consistent with an orthodox economic efficiency framework in which the central question is whether the relevant offer would have occurred if the market in the relevant trading periods had been effectively competitive”.

We consider the current HSOTC provisions capture mis-use of market power and outcomes that are inconsistent with outcomes in workably competitive markets

Electric Kiwi and Haast consider the current HSOTC provisions capture mis-use of market power and outcomes that are inconsistent with outcomes in a workably competitive market. This is detailed in the complaint letter to the Authority “Reporting of Contact and Meridian’s breaches of the High Standard of Trading Conduct requirements and Undesirable Trading Situation”, 12 December 2020.

We note MDAG’s commentary on the interpretation of the current HSOTC is highly qualified, with MDAG describing the current HSOTC rules variously as “vague”, “obtuse”, “nebulous ... which no one really knows the meaning of” and, more colourfully, that “the legal meaning of HSOTC is somewhat amorphous -- akin to a semi-opaque emulsion with different layers of potential meaning”.

MDAG’s written description of the relative uncertainty over how the current HSOTC rules should be interpreted does not appear to marry with its visual illustration, which suggests a relatively limited level of uncertainty (the dashed lines are approximate to the hard lines in the stylised illustration). We consider our alternative stylised illustration of the MDAG position is more accurate than the stylised illustrated contained in the MDAG paper (see Figure 1 below).

Electric Kiwi and Haast also have a different interpretation (also see Figure 1 below). Our interpretation is clearly consistent with the Authority’s decision in relation to the Meridian 2 June 2016 HSOTC breach.²⁵

²⁴ Haast, Reporting of Contact and Meridian’s breaches of the High Standard of Trading Conduct requirements and Undesirable Trading Situation, 12 December 2019.

²⁵ This point is addressed in the the Haast letter “Reporting of Contact and Meridian’s breaches of the High Standard of Trading Conduct requirements and Undesirable Trading Situation”, 12 December 2019.

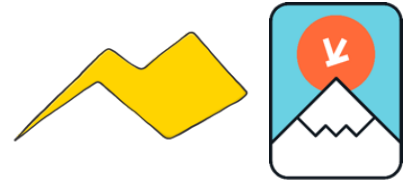
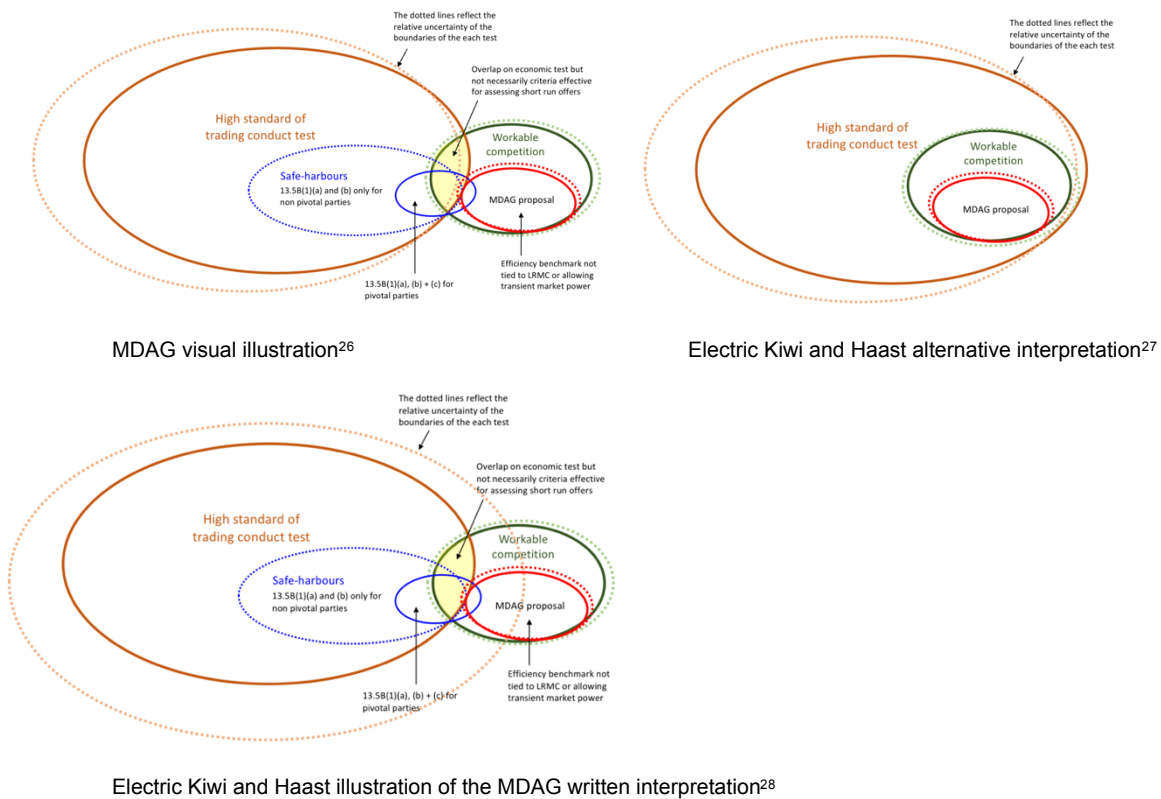


Figure 1: Stylised illustration of the HSOTC rules



We agree with MDAG though that “What ultimately counts is how the courts would interpret it”. This is an important qualification when considering MDAG’s discussion on how the current HSOTC rules should be interpreted.

MDAG should satisfy itself that there are appropriate provisions for dealing with all forms of undesirable trading conduct

MDAG has suggested “the legal meaning of HSOTC is somewhat amorphous -- akin to a semi-opaque emulsion with different layers of potential meaning”. One potential interpretation, based on a high level PowerPoint presentation provided by Bell Gully is depicted in Figure 4 from the MDAG paper.²⁹

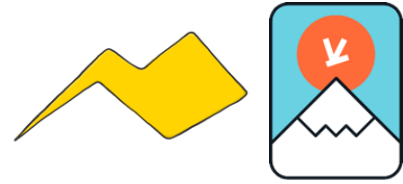
While we do not agree with this narrow interpretation of the current HSOTC provisions, it will be important MDAG satisfies itself there are appropriate Code provisions for dealing with all forms of abuse of market power. For example, based on the premises of the MDAG paper, the MDAG proposals would potential result in a gap in relation to how market manipulation and insider trading is dealt with.

²⁶ MDAG, HIGH STANDARD OF TRADING CONDUCT” PROVISIONS: A REVIEW BY THE MARKET DEVELOPMENT ADVISORY GROUP DISCUSSION PAPER, 25 February 2020, figure 8.

²⁷ Workably competitive market standard captured by existing HSOTC rules.

²⁸ The stylised illustration reflects the relative uncertainty of the boundaries or each test as articulated in the MDAG paper.

²⁹ We have clarified that Bell Gully has not provided formal legal advise beyond the PowerPoint presentation.



What the Meridian citation highlights is that market manipulation can occur in situations where a generator has market power/is pivotal:

- The price under market manipulation is “artificial” if it does not reflect the underlying demand and supply conditions;
- The market participant had market power/was pivotal and able to set the price in the market;
- The market participant had market power and used to it set an “artificial” price.

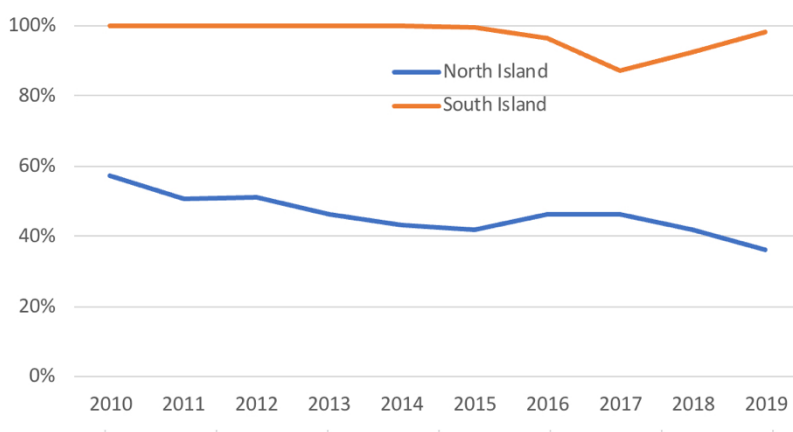
This interpretation of market manipulation is not contentious and was cited by various parties in the 26 March 2011 UTS process.³¹

We agree gross pivotal situations are part of the problem

For the avoidance of doubt, we would not support any variation to the MDAG proposal which could limit trading conduct breaches to situations where the generator is net pivotal. We agree with MDAG gross pivotal situations give rise to concerns about abuse of market power and not just net pivotal situations: “While a gross but not net pivotal supplier may not profit from raising prices in the short term, it may have incentives to raise prices (or create greater volatility) to increase hedge and/or retail returns over the longer term”. This is an important point, as the Authority has used evidence of low incidents of net pivotal situations as evidence there isn’t a problem or that there are only limited problems (notably in relation to the hedge market).³² The Authority’s Market Performance Quarterly Reviews³³ measure the percentage of time generators are net pivotal and make no reference to gross pivotal.

Figures 3, 4 and 5 below provide updated versions of the MDAG consultation gross and net pivotal positions in the North and South Islands. In its notable that, for example, Meridian’s position has almost reverted back to its normal position of 100% gross pivotal.

Figure 3: Proportion of time large generators are gross pivotal at an island level across all trading periods (Source: Electricity Authority)



³¹ For example: Keiran Murray (Sapare), Claimed undesirable trading situation, 26 March 2011, 6 April 2011.

³² See, for example, the Electricity Authority’s Annual Reports from 2014/15 onwards.

³³ Electricity Authority, Market Performance Quarterly Review Q1 2020, Information paper, 12 April 2020.8

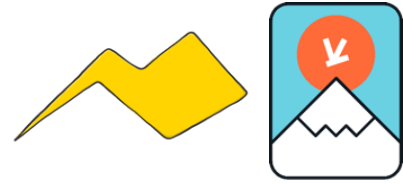


Figure 4: Proportion of time large generators are net pivotal at an island level across all trading periods (Source: Electricity Authority)

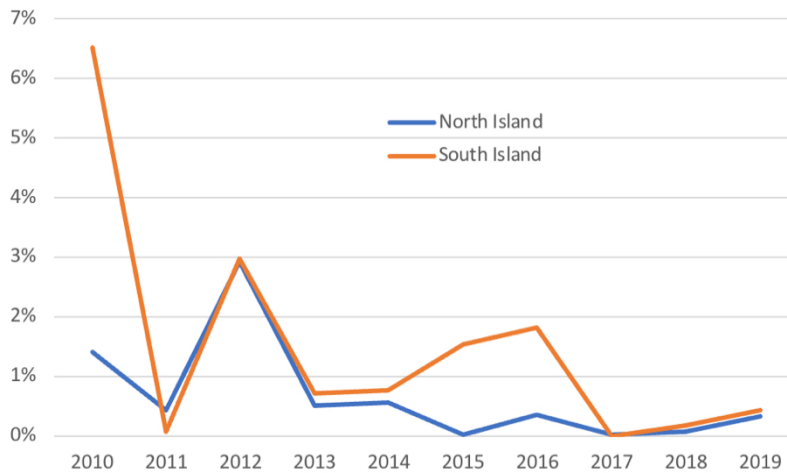


Figure 5: Proportion of time large generators are gross pivotal at an island level across all trading periods (Source: Electricity Authority)

Trader	North Island			South Island		
	2010	2018	2019	2010	2018	2019
Contact	37%	32%	24%	17%	8%	8%
Genesis	53%	33%	29%	0%	0%	0%
Meridian	0%	0%	0%	100%	93%	98%
Mercury	37%	33%	25%	0%	0%	0%

It may be useful for MDAG to undertake further analysis of the extent to which gross pivotal situations arise by investigating the extent to which gross pivotal situations arise at a sub-Island level e.g. MDAG should determine the extent to which:

- each of the incumbent generators is gross pivotal on an ‘any time, any place’ basis; and
- individual generation plants become ‘islanded’ and pivotal.

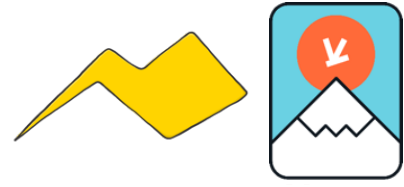
While MDAG have clearly identified a very large problem, only looking at the extent to which gross pivotal situations arise at an Island level understates the prevalence of gross pivotal situations and the size of the problem.

There is clear evidence of market failure to support MDAG’s proposals

MDAG’s evidence of market failure should also include HHI and market concentration measures. The Authority has acknowledged in internal communication that “there is very little change since 2010”.³⁴ Again, the absence of this information has resulted in understatement of the size of the problem.

The HHI and Concentration Ratios for the wholesale electricity market have changed very little since the Authority was established, and the HHI has been progressively getting worse over the last two years (see Figures 6 - 9). Since March 2018, the wholesale electricity market HHI has increased by nearly 300 points (14%).

³⁴ OIA release: 1219633 - Generation HHI_1229212_1.PDF.



It is notable the last three spikes in the HHI (when the incumbent generators' ability to misuse market power to raise prices is at its strongest) each coincided with UTS/HSOTC complaints and breaches.

The Commerce Commission defines a “concentrated market” as a market where the three suppliers have a total of 70% or more of the market. The three largest generators have 73% of the wholesale electricity market as at 29 February 2020.³⁵

Figure 6: Wholesale electricity market HHI trend

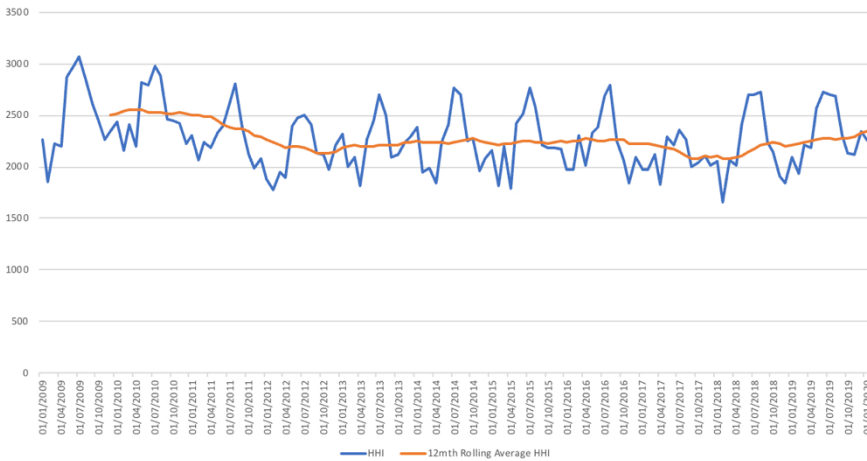


Figure 7: Wholesale electricity market CR1 trend

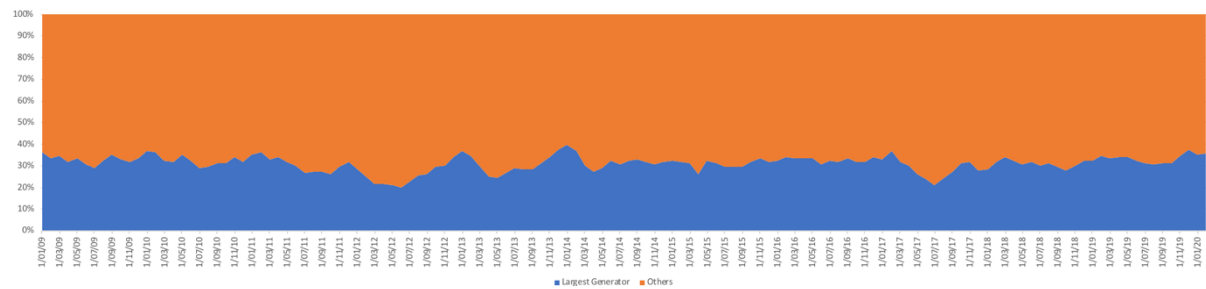
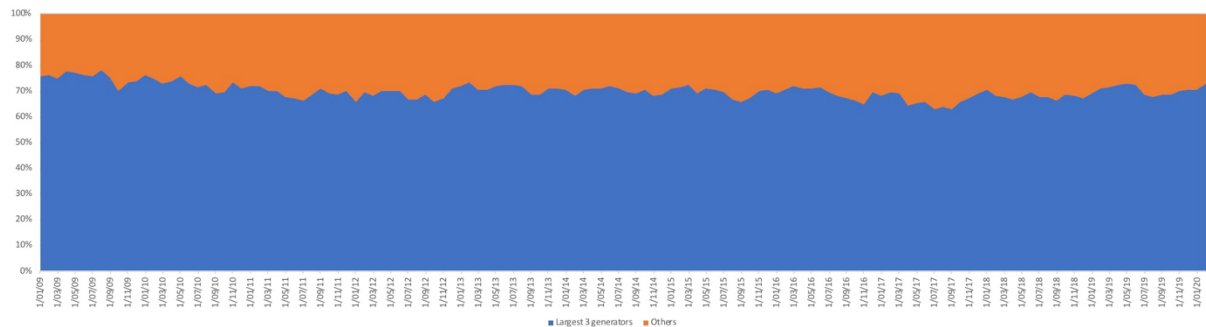


Figure 8: Wholesale electricity market CR3 trend



³⁵ Or 70.6% taken as an average over the previous 12 months.

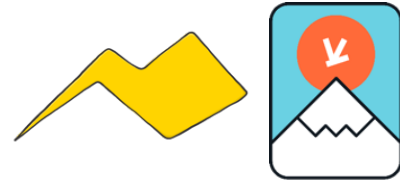
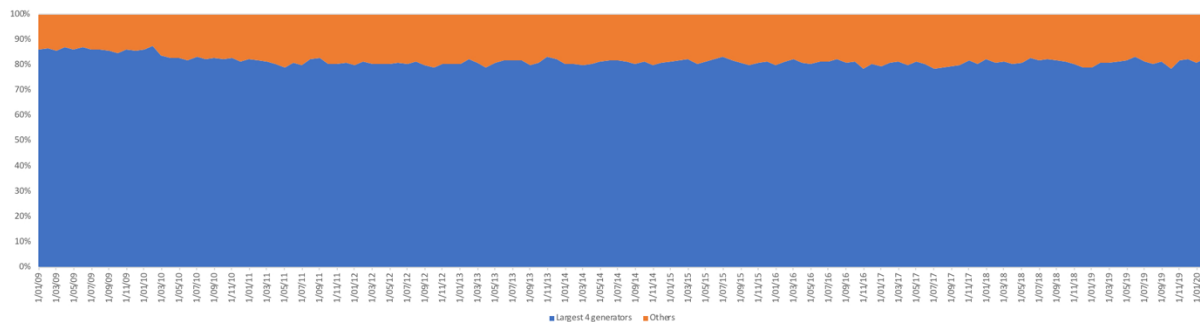


Figure 9: Wholesale electricity market CR4 trend



What these market concentration measures show is that problems with generators being able to misuse or exercise market power can be expected to be an enduring issue in the wholesale electricity market. Unless structural reforms are adopted, which we would prefer, there will be ongoing need for market monitoring and trading conduct rules that are stringently enforced.

Response to Meridian’s comments on need for quantified CBA

There was pushback from Meridian and its advisors, at the Wellington trading conduct workshop, about whether the quantified CBA is needed to support the MDAG proposals. MDAG has clearly made a judgement about the extent to which it is reasonably practicable to undertake quantitative CBA that would assist MDAG (and the Authority) make a decision on the proposed trading conduct rules. We do not challenge MDAG’s judgement on this.

MDAG could consider measuring the benefits by using (more) competitive market outcomes as a proxy.³⁶ There are various approaches MDAG could consider if it accepts Meridian’s position on the need for quantified CBA.

MDAG could draw on the work undertaken by Dr Steve Poletti at the University of Auckland (peer reviewed by Professor Derek Bunn at London Business School) and Frank Wolak in his 2009 report for the Commerce Commission as a basis for determining the quantified impact of use of market power in the wholesale electricity market.

MDAG could compare the market outcomes when HHI is highest against when it is lowest to test the impact of differences in levels of competition in the market (see Figure 5).

MDAG could undertake modelling (say using vSPD) to compare competitive market outcomes with the status quo (oligopolistic market outcomes) to test the potential benefits of market behaviour that more closely resembles workably competitive market outcomes. MDAG would need to make a judgement about the extent to which its proposals would push wholesale electricity market outcomes closer to workably competitive market outcomes. This is essentially the type of analysis Haast undertook for the December 2019 UTS and HSOTC code breach complaint.³⁷

When Government officials were advising on the break-up of ECNZ in the 1990s quantitative analysis was undertaken of the market outcomes of different break-up options (including more aggressive break-up options which would have driven more competitive outcomes than the resulting oligopoly structure). This type of analysis could also be used with, say, restructuring options that would remove

³⁶ These options were well canvassed in submissions to the Electricity Price Review, including Electric Kiwi and Haast’s advocacy for creation of an entirely new pure wholesale hydro SOE.

³⁷ MDAG could use the December 2019 Code breach allegation as a case study. The Code breach allegation includes an entirely objective assessment of the relevant market participants’ behaviour, and quantification of the pricing impact that the behaviour had. MDAG could similarly consider the Authority’s Genesis Tekapo A HSOTC breach allegation. We acknowledge that the extent to which MDAG may want to have regard to these case studies may depend on the conclusions the Authority reaches in assessing whether a UTS or HSOTC breach has occurred.



or reduce the frequency of Meridian et al's gross pivotal position used as a proxy for the impact of the proposed trading conduct rules.

If MDAG attempted to quantify the extent to which prices are higher due to market power, it would likely highlight the benefit of (more certain) competitive market outcomes from further structural (horizontal) separation and asset swaps.

Regardless of whether quantified CBA is undertaken or not, judgement is required about the extent to which the proposed new trading conduct rules would result in outcomes that better replicate workably competitive market outcomes than the current HSOTC rules.

Reduction in wealth transfers from consumers is the main benefit

The consultation paper limits the benefits of the trading conduct reforms to efficiency gains. While the CBA results are positive the benefits have been understated.

The benefits to consumers from lower spot prices will substantially dwarf any likely efficiency gains.

We acknowledge that MDAG is following Electricity Authority direction on the interpretation of its statutory objective, but consider the Authority's interpretation to be outdated and flawed.

The Authority's position that price benefits should be ignored is equivalent to the Police considering whether they should more aggressively focus on burglaries, but limiting the assessment to reduced damage to person and property, e.g. broken locks and windows (efficiency impacts), and disregarding the actual stolen goods as wealth transfers. The Authority position is effectively that while the burglar benefits at the expense of the household, it is a 'zero-sum' game from a NZ Inc perspective. According to the Authority, if the burglar gets injured during the theft without damaging property the injury is the only efficiency cost or harm caused by the theft.³⁸

Electric Kiwi and Haast agree with the comments made by John Stephenson (Sense Partners) in work Sense Partners is doing for the Authority on the TPM review: "If all prices fell by \$10 then people could e.g. (a) work less and enjoy the same consumption benefits (b) save and invest in something without foregoing any of their consumption benefits (c) buy more of something else to use/consume. So even if they have zero elasticity in the market in question there is still scope for a substantial welfare improvement ...".³⁹

Stringent market monitoring and enforcement are key to realising the potential benefits from reform of the trading conduct rules

Electric Kiwi and Haast support MDAG's "inten[tion] to recommend that the Authority increase resourcing of both its monitoring and compliance functions". There is no reason for the Authority to wait for the MDAG final recommendations report. The Authority should adopt more stringent monitoring and enforcement right now.

If the new rules are to be effective in constraining or limiting abuses and exercise of market power in the wholesale electricity market there needs to be stringent market monitoring and enforcement.

We note and agree with Vector's observation that "New Zealand has a very 'light touch' regime compared to most other jurisdictions with respect to monitoring and mitigating market power. The current "Undesirable Trading Situation" (UTS) provisions in the Electricity Industry Participation Code are only a weak deterrent, and moreover the EA's enforcement of the rules has been ineffective. For example, its investigation of Meridian's trading conduct on 2 June 2016 was discontinued without penalty, despite the EA Board concluding that it clearly breached UTS provisions. Similarly, its

³⁸ There may be other costs such as transaction and search costs from replacing the stereo system etc but this will be relatively minor compared to the value of the stereo.

³⁹ <https://www.ea.govt.nz/dmsdocument/25805-4-11-fw-fw-wealth-transfers-in-the-tpm-cba>



investigation of Mercury's behaviour on 8 December 2016 was also discontinued as the parties were unable to reach a settlement agreement".⁴⁰

MDAG has been very clear the Electricity Authority has failed to adequately undertake market monitoring and enforcement; for example:

- MDAG has provided a lengthy list of examples of mis-use (or potential mis-use) of market power.⁴¹
- MDAG observed that "Using market power in a pivotal situation to manage basis risk had been a longstanding practice by a variety of participants" and that "For Meridian, it had been used on a reasonably regular basis as a standard approach to mitigate the risk of price separation between the islands during times of high HVDC transfer". Meridian intimated that this remains the case at the Wellington trading conduct workshop.
- Concept provided MDAG with evidence there has been no "end to the practice of using pivotal power to manage basis risk across a transmission constraint"⁴² and "The frequency of interisland price separation has not changed substantially. Since the Authority's decision finding Meridian to have breached the HSOTC requirement, we have seen six instances of price separation where high North Island prices have been nearly matched by high prices in the South Island when there is no apparent shortage in the South Island".⁴³ We agree with Concept that "significant price separation is sometimes occurring during local pivotal supplier situations, despite the Code change in 2014" and "there are indications that the magnitude of price separation may have increased in recent times".
- The Authority only sending Meridian a warning letter for their 2 June 2016 HSOTC breach. It is clear from the MDAG commentary on the warning letter the Authority sent Meridian in relation to their 2 June 2016 HSOTC breach that the efficacy of the warning letter was undermined by its vagueness in terms of what the actual HSOTC breach was and lack of enforcement/penalties.⁴⁴ At the Wellington Workshop Meridian argued about whether the Authority had even made a decision that Meridian was in breach of the HSOTC rules.
- MDAG observed the Authority identified other likely HSOTC breaches but, without providing any explanation, took no action:

"The Authority looked past Genesis' late spike in its offer price in the 2 June 2016 event, even though it was likely an exploitation of its pivotal position. The Authority also took no action against Contact, which did not explain its late high price increase in the light of its contract position."

It is worrying that it was straightforward for MDAG to identify a large number of likely and potential breaches of the existing HSOTC rules using Authority resources, but the Authority did not identify and/or act on these itself; particularly given the Authority's view that "a rigorous monitoring programme" is needed for the trading conduct rules to be effective.⁴⁵

⁴⁰ Vector, Electricity Price Review, 28 October 2018.

⁴¹ e.g. Annex 1 of the MDAG paper: Instances of inter-island price separation since October 2013.

⁴² Our interpretation of the comments made by Meridian and its advisors at the Wellington workshop is that this conduct is ongoing.

⁴³ See also paragraph 63 of the MDAG paper.

⁴⁴ MDAG commented, for example, that "The Authority's decision in the Meridian HSTOC case is brief. It gives no explanation of how the Authority interprets the provisions as a matter of law, what the relevant legal or economic benchmarks are, or how other relevant factors are to be evaluated. Its primary reason for finding a breach was simply: "the Board would have expected Meridian to have covered its North Island exposure using other available risk management products or, if it chose not to do that, then to bear the cost of the risk if it eventuates.

⁴⁵ Electricity Authority, Improving the efficiency of prices in pivotal supplier situations: Consultation Paper, 18 February 2014, paragraph 3.3.2.



The Authority's non-action in response to Meridian's 2 June 2016 reinforces MDAG's proposed recommendation for stringent monitoring and enforcement

We do not agree Concept has provided sound basis for concluding “the Authority’s enforcement action in May 2017 did not cause a structural shift in electricity spot prices or generator offers” or that “the evidence strongly indicates the increase in spot prices observed since May 2017 is explained by physical factors – especially changes in hydro storage and gas prices over the period”.

The MDAG paper refers to Concept’s August 2019 report and Haast’s December 2019 response, but not to Haast’s subsequent response to Concept’s draft addendum report which purported to respond to Haast’s critique.⁴⁶

We remain of the view that, once corrected for modelling issues, the Concept Report (and Concept Addendum) does not support the hypothesis that there has been no structural shift from May 2017.

It appears that the Concept/MDAG views on the impact of the Authority’s response to Meridian’s 2 June 2016 HSOTC breach hasn’t had any particular implications for the trading conduct review. Regardless of whether it is accepted that the Authority decision was ineffective (Concept/MDAG position) or it potentially emboldened Meridian et al to abuse their market power further, either position supports the MDAG proposed recommendation that the Authority strengthen its market monitoring and enforcement. If there was a structural shift in spot prices it would mean the net benefits of the MDAG proposals are higher than MDAG have assumed.

Length of time the trading conduct review has taken and next steps

The consultation paper was released 27 months after the Authority requested MDAG undertake the review. The length of time it takes Advisory Groups and the Authority to produce consultation papers and undertake projects is something that should be addressed as part of the Authority’s strategic review.⁴⁷

We welcome the decision to include cross-submissions as part of the consultation process and support speeding up the remaining steps on the trading conduct review, by skipping Electricity Authority consultation on the Code Amendments.

Any consultation that is needed on changes or refinements to the proposed Code Amendments can be undertaken by MDAG before it makes final recommendations to the Authority.

Concluding remarks and recommendations

Electric Kiwi and Haast support the MDAG proposals, including that the Authority adopt more stringent market monitoring and enforcement, subject to MDAG adopting the enhancements jointly proposed by the Independent Retailers.

There are a number of alternative ways the trading conduct rules could be rewritten that would be worth considering, including a more direct prohibition on market participant using significant or excessive market power in a way that results in outcomes inconsistent with workable competition or that result in extraction of excessive profits.

It will be important MDAG satisfies itself the changes to the proposed rules won’t result in any loopholes or gaps in the prohibition of abuses of market power. For example, based on the premises of the MDAG paper the proposals would potentially result in a gap in relation to how market manipulation and insider trading are addressed.

⁴⁶ Haast, Rebuttal of Concept’s report “Review of impact of trading conduct enforcement action on spot prices – addendum”, 11 February 2020.

⁴⁷ Sitting behind this are a number of issues including that the initial project KPI was simply to initiate drafting of a consultation paper.



The main benefit from better ensuring “prices are not too much or for too long ... above costs”⁴⁸ will be reduction in prices. The benefits will only be realised if the Authority vigorously monitors and enforces the rules.

MDAG “Recognis[es] the inherent limitations outlined above in relation to weak alignment of incentives for conduct rules”. We agree with MDAG that “The HSOTC provisions come within the behavioural category of options. To the extent that it relates to pivotal situations, HSOTC amounts to a nebulous exhortation calling on pivotal parties to act in a manner that is at odds with their capacity and incentives. ... this lack of incentive alignment would suggest that, over time, the HSOTC may be comparatively ineffective”. This holds true for both the current and proposed rules. Ultimately, if the proposed rules fail to rein in abuses of market power in the wholesale electricity market then, as the Authority has previously indicated, it would need to consider more stringent measures, including structural remedies.⁴⁹

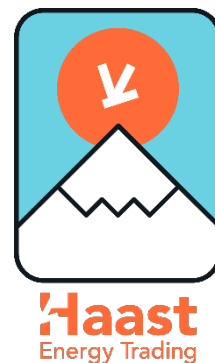
Yours sincerely,

Luke Blincoe
Chief Executive, Electric Kiwi Ltd
luke.blincoe@electrickiwi.co.nz
+64 27 601 3142

Phillip Anderson
Managing Director, Haast Energy
phill@haastenergy.com
+64 21 460 040

⁴⁸ WELLINGTON INTERNATIONAL AIRPORT LTD & ORS v COMMERCE COMMISSION [2013] NZHC [11 December 2013], paragraph [15].

⁴⁹ Electricity Authority, Improving the efficiency of prices in pivotal supplier situations: Consultation Paper, 18 February 2014, paragraph 3.3.3.



12 December 2019

James Stevenson-Wallace
Chief Executive
Electricity Authority

By email: compliance@ea.govt.nz, uts@ea.govt.nz, james.stevenson-wallace@ea.govt.nz

CC: MBIE, Gareth.wilson@mbie.govt.nz

Reporting of Contact and Meridian's breaches of the High Standard of Trading Conduct requirements and Undesirable Trading Situation

Dear James,

Haast Energy Trading considers that both Contact Energy and Meridian Energy's conduct during the relevant trading periods:

- Breached the High Standard of Trading Conduct (HSOTC) provisions (clause 13.5A) of the Electricity Industry Participation Code (the Code);
- Fell outside the clause 13.5B safe harbour provisions in the Code; and
- The nature and scale of the HSOTC breach – specifically the manipulative trading activity and quantum of the wealth transfers – also qualifies as an undesirable trading situation (UTS) under Part 5 of the Code.

Our simulations show Meridian's generation business has extracted excess revenue of \$38m in the period since 10 November 2019 and Contact's by \$23m. We consider that the scale of monopoly pricing goes well beyond a breach of the HSOTC provisions and amounts to a UTS.

Please find attached the Notice of Breach forms for a HSOTC and UTS. We are joined in the HSOTC and UTS breach complaints by ecotricity, Vocus, Electric Kiwi, Flick Electric, Oji Fibre, and Pulse Energy Alliance.

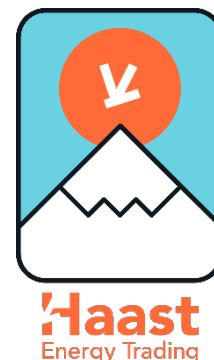
HSOTC versus UTS

Haast considers that Contact and Meridian have breached both the HSOTC and UTS provisions of the Code. We note the definition of a UTS specifies that:

“undesirable trading situation means any situation— (a) that threatens, or may threaten, confidence in, or the integrity of, the wholesale market; and (b) that, in the reasonable opinion of the Authority, cannot satisfactorily be resolved by any other mechanism available under this Code (but for the purposes of this paragraph a proceeding for a breach of clause 13.5A is not to be regarded as another mechanism for satisfactory resolution of a situation).”

This means that a breach of the HSOTC Code provisions can also be a breach of the UTS provisions.

The date and time the alleged breach occurred



The relevant trading periods for the alleged breach include hundreds of trading periods from 11 November 2019 onwards and the situation remains on-going. From approximately November 10 Meridian has been spilling water from Lake Manapouri into the Waiau river. Meanwhile, Contact have had sufficient flow at Clyde (generally >850 cumecs¹) to run their Clyde and Roxburgh stations at maximum capacity 24/7 but have foregone this opportunity to generate and spilled water to prop up energy prices. Both Meridian and Contact have been pricing large tranches of volume at greater than \$50 despite spilling hundreds of GWh of water², and as a result these stations have not been dispatched as much as they would if their offers reflected the SRMC of the water in these catchments.³

Lakes Manapouri and Te Anau both encroached into their high operating ranges around November 10, leading Meridian Energy to commence spill from the scheme in order to satisfy resource consents.

Flows in the Lower Waiau River are controlled by releases of water from the Lake Manapouri Control structure. Meridian must generally maintain minimum flows in the range of 12 to 16 cumecs to satisfy Environment Southland resource consent 96022.⁴ Release flows must also increase to equal the flow in the Mararoa River when turbidity increases beyond the consented threshold in that river. With rare exceptions for environmental releases, flows in the lower Waiau river in excess of the Mararoa river flow indicate that Meridian is spilling water from Lake Manapouri. Data from Environment Southland indicates that this has been the case continuously since 10 November.⁵

Lake Manapouri water level

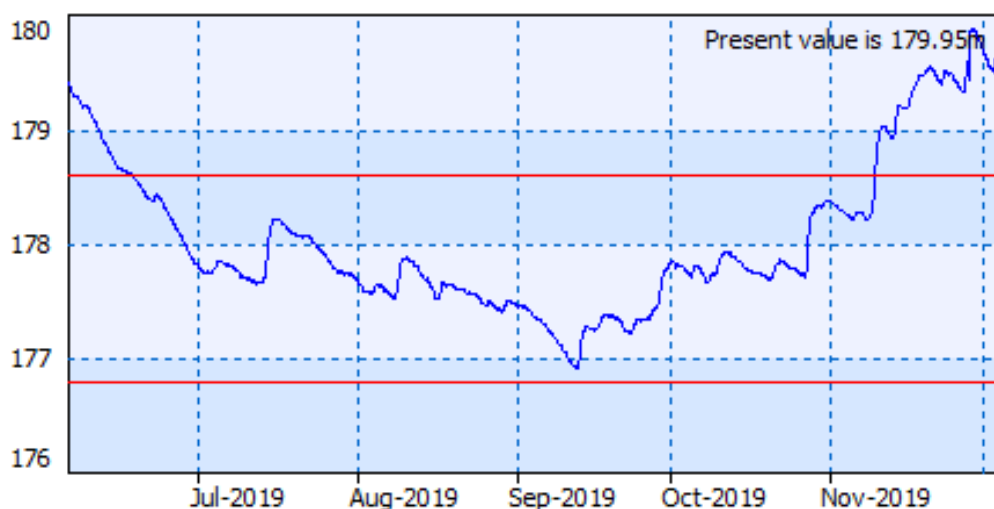


Figure 1: Lake Manapouri water levels. The red lines demarcate the normal operating range of the lake, and it can be seen that the lake entered its high operating range around 10 November

¹ Cubic metres of water per second

² For example the spill in cumecs at Manapouri since 3 December has exceeded the maximum consumption of the power station itself (circa 520 cumecs).

³ The attached spreadsheet details trading periods where Clyde (CYD) and Manapouri (MAN) separately had bands priced to >\$5 while they were spilling. (Periods where Manapouri or Clyde was spilling AND maintaining offers above 5 dollars.xls) We chose \$5 to reflect: (i) the water value was virtually \$0 for the entire period (11th Nov to 9 Dec), but there may be some O&M costs etc which could mean SRMC is above zero.

⁴ <https://www.es.govt.nz/repository/libraries/id:26gi9ayo517q9stt81sd/hierarchy/about-us/plans-and-strategies/regional-plans/proposed-southland-water-and-land-plan/documents/background-documents/evidence/ENV-2018-CHC-000038%20-%20Meridian%20Energy%20Ltd%20>

⁵ <http://envdata.es.govt.nz/>



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Lake Te Anau water level

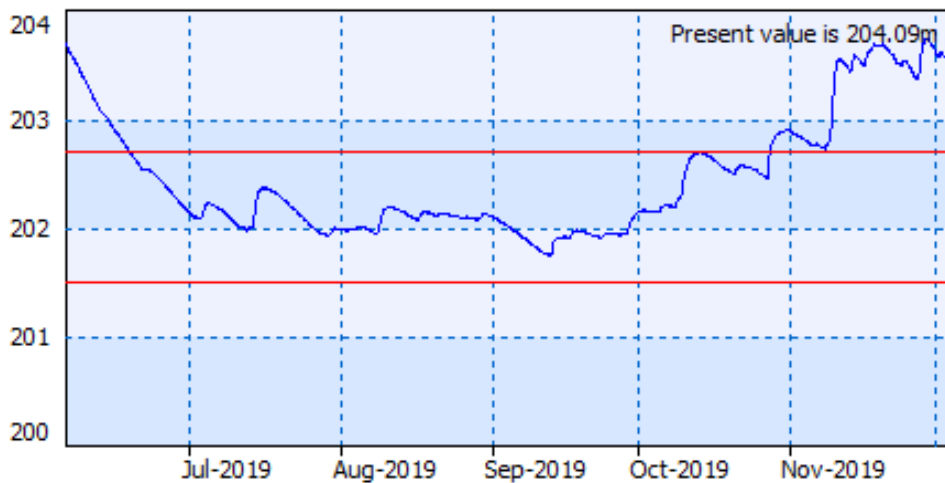


Figure 2: Lake Te Anau water levels. The red lines demarcate the normal operating range of the lake, and it can be seen that the lake entered its high operating range in late October, then rose further around 10 November.

Mararoa water flow

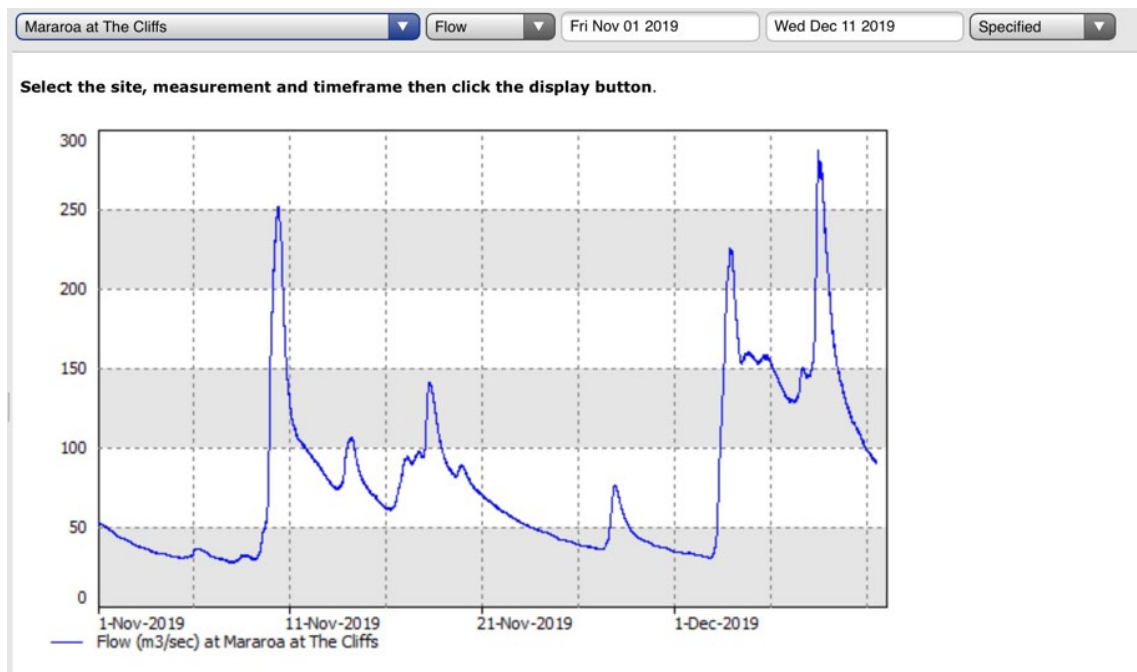


Figure 3: Mararoa river flows (in cumecs), upstream of the Manapouri Control Structure.



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Waiau River water flow

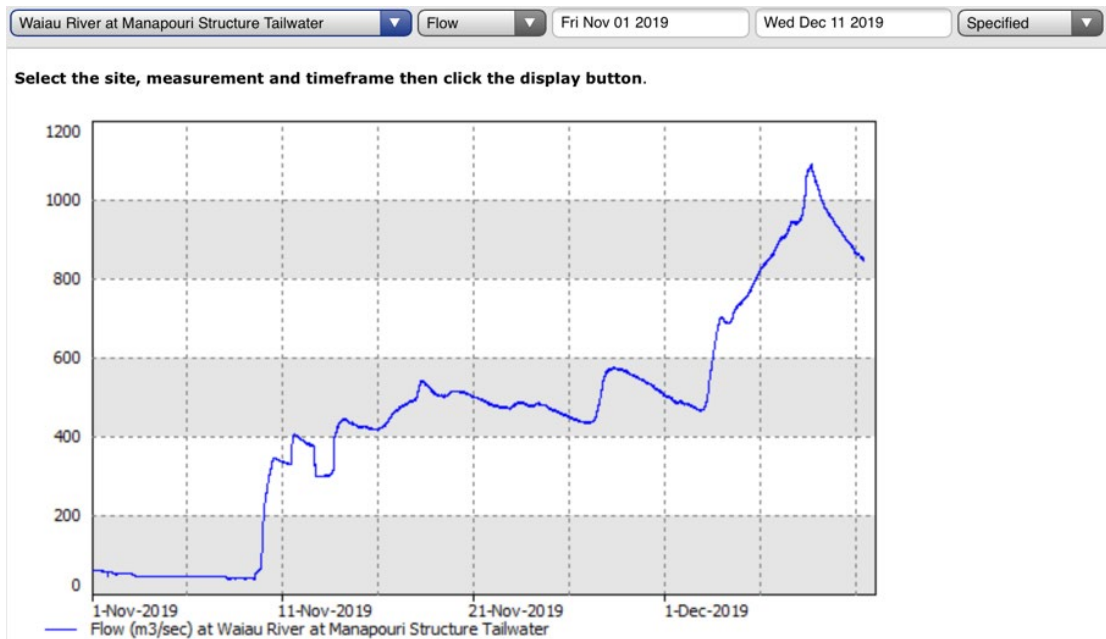


Figure 4: Waiau river flows (in cumecs) immediately downstream of the Manapouri Control Structure. The flows well in excess of Mararoa river flows since 10 November indicates the balance has come from Lake Manapouri

Clutha River water flow

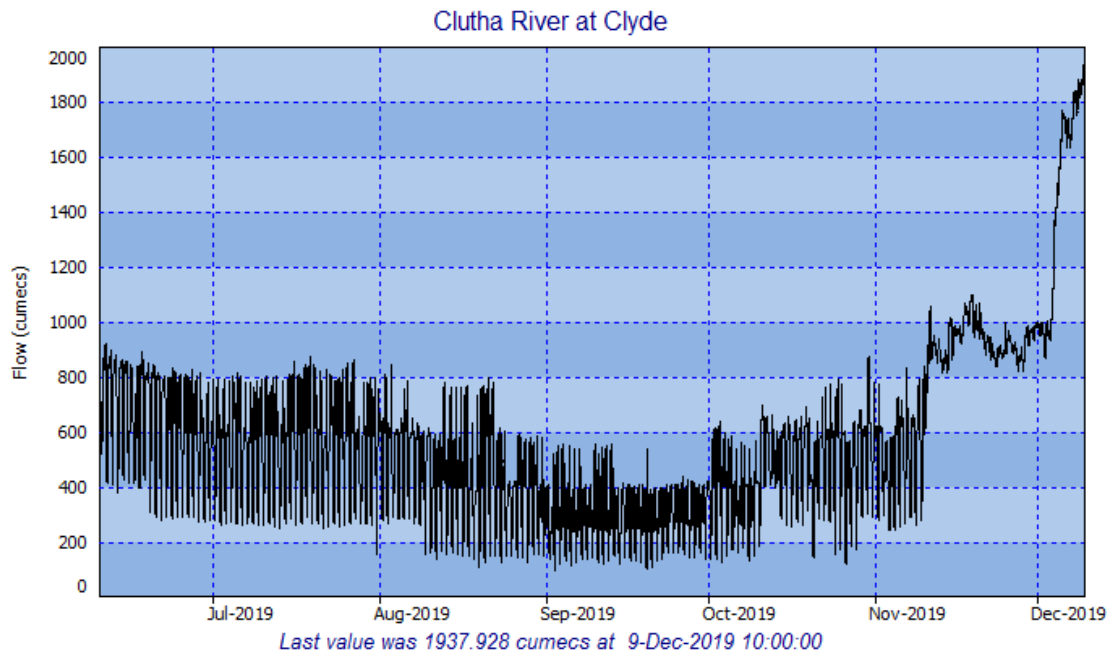
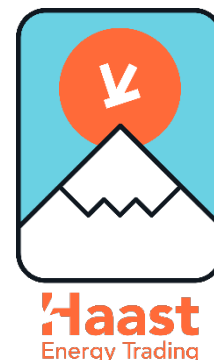


Figure 5: Clutha River flows at Clyde. The flow since 10 November, generally above 850 cumecs, would have been sufficient to run the Clutha scheme near full capacity.



Circumstances of Meridian's breach

Meridian has been spilling water at the Manapouri Power Scheme (Manapouri) during the relevant trading periods. The spill is of the same order or magnitude as the maximum water consumption of the power station (circa 520 cumecs).

The spilling of water means the 'opportunity cost' or value of water is zero during the relevant trading periods and the short-run marginal cost (SRMC) of generating electricity at Manapouri is near zero.⁶

Meridian has offered in tranches of Manapouri hydro generation at well above its SRMC even though it is spilling water at the same time. It was able to do this by misusing its market power. For example:

- From 13 November to 9 December generation of 100MW to 200MW+ at Manapouri was frequently made available only at prices above \$450 during off-peak periods, and from 6 December water has also been priced up during peak periods.⁷
- In the same period, Meridian has exercised its market power through actively managing its Waitaki offers⁸ prior to gate closure to ensure overnight Benmore prices are maintained in a \$50 to \$70 range.⁹

Circumstances of Contact's breach

The Clyde Power Station has an energy conversion rate of approximately 0.52 MW/cumec and a maximum generation capacity of 464MW (previously 432MW), meaning flows of roughly 890 cumecs are required for maximum generation. The Roxburgh Power Station has an energy conversion rate of approximately 0.40 MW/cumec and a maximum generation capacity of 320MW, meaning flows of roughly 800 cumecs are required for peak generation.¹⁰ Essentially the same flows pass through each station, barring the addition of the Manuherekia river and some minor tributaries downstream of Clyde¹¹

The flow in the Clutha River downstream of the Clyde Dam has averaged over 900 cumecs since 11 November, yet generation from Clutha from 11 November to 9 December averaged approximately 600MW against the scheme's total capacity of 784MW, and often dropped nearer to 300MW overnight. Contact has repeatedly offered zero-value water into the market at prices greater than \$50 to prop up spot prices, intentionally spilling more water than necessary.¹²

⁶ The Electricity Authority provides the following definition of the "opportunity cost" of water:

"The opportunity cost of using water to generate electricity today is the value of using it at some time in the future to generate electricity, or its value in some other use, such as, irrigation, recreation or conservation of the environment". Reference: Dr Brent Layton, Chair, Electricity Authority, The Economics of Electricity, 4 June 2013, paragraph 17.

⁷ Refer to Appendix 1.

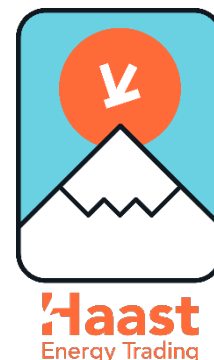
⁸ Refer to Appendix 2

⁹ Refer to Appendix 9.

¹⁰ Refer to Tables 6 and 7 of this document: <http://www.epoc.org.nz/papers/EMBEROnlineCompanion.pdf>

¹¹ Refer to: <https://www.orc.govt.nz/managing-our-environment/water/water-monitoring-and-alerts>

¹² Refer to Appendix 3.



Impact of the manipulative trading activity

To assess the impact of Contact and Meridian's manipulative trading activity Haast used the vSPD-online tool¹³ to produce a counter-factual scenario with all of the available Waiau and Clutha plant offered into the market at \$5.¹⁴ A level of \$5 was chosen to reflect a near zero water value but some small variable operations and maintenance costs.

The impact of Contact and Meridian's manipulative trading activity has included:

- higher than otherwise wholesale electricity prices (resulting in adverse allocative efficiency impacts and wealth transfers from consumers to generators, including Contact and Meridian). Our simulations show Meridian's generation business has extracted excess revenue of \$38m in the period since 10 November and Contact's by \$23m.¹⁵ The following graph (Figure 6) shows the difference of approximately \$30 between actual prices and the prices that would have arisen if Contact and Meridian hadn't artificially raised their offer prices.¹⁶

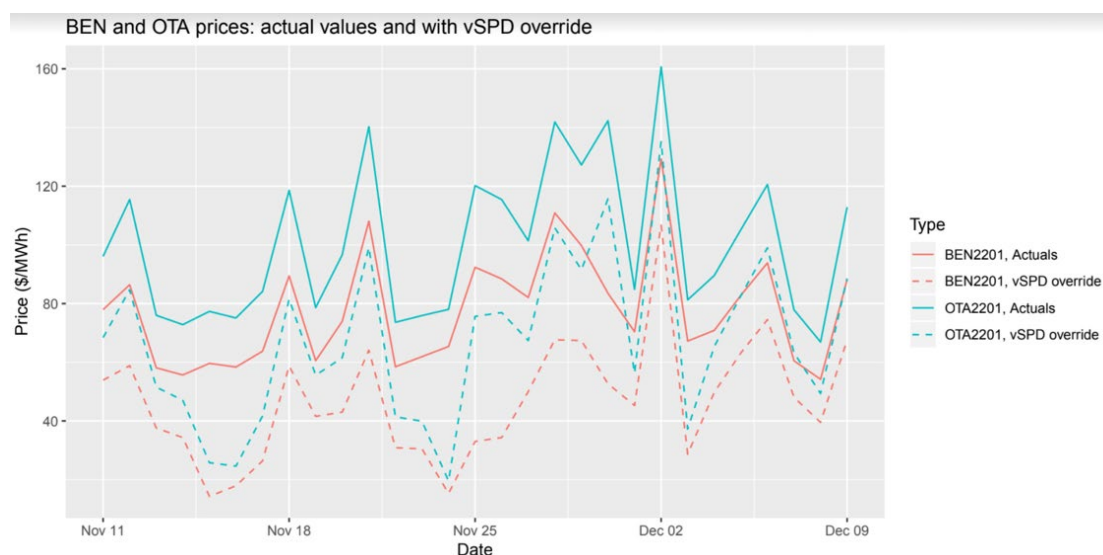


Figure 6: There is a clear and consistent reduction in market prices in the simulated scenario for BEN and OTA (dashed lines)

- additional and unnecessary water spill (productive inefficiency). Our simulation indicates that if the full generation capability of the Waiau and Clutha plant had been offered into the market at \$5, then an additional 109 GWh of generation would have been dispatched from these schemes that has been instead been spilled;
- inefficient and higher use of North Island hydro, wasting storable water in the North Island during off-peak hours (productive inefficiency). Our simulations show that 15GWh of North Island water was used needlessly and could have been supplanted by spilled South Island water;¹⁷

¹³ <https://www.emi.ea.govt.nz/vSPD-online>

¹⁴ Refer to Appendix 6 for a full list of assumptions

¹⁵ This is based on assumption that the SRMC for Clyde, Manapouri and Roxburgh was \$5. We chose \$5 to reflect: (i) the water value was virtually \$0 for the entire period (11th Nov to 9 Dec), but there may be some O&M costs etc which could mean SRMC is above zero.

¹⁶ Refer Appendices 6, 7, and 8.

¹⁷ Refer to Appendix 4.



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- inefficient and higher fuel cost (above zero) thermal (gas and coal) power generation in the North Island (including Huntly) during off-peak hours (productive inefficiency). Our simulations show that 11GWh of Huntly thermal generation could have been supplanted by spilled South Island water;¹⁸
- higher carbon dioxide (CO₂) emissions for New Zealand. Our analysis indicates 6000 tonnes of CO₂ emissions could have been avoided. The additional coal-fired generation at Huntly also generates other forms of air pollution including sulfur dioxide, nitrogen oxides, particulate matter (PM), and heavy metals (see Figure 7 below). For the excess CO₂ emissions analysis, the following emission rates were assumed (tonnes of CO₂ per MWh of electricity generated):¹⁹
 - HLY5: 0.394.
 - HLY1-4: 0.974 if burning coal, 0.581 if burning gas.
 - SFD peakers: 0.506

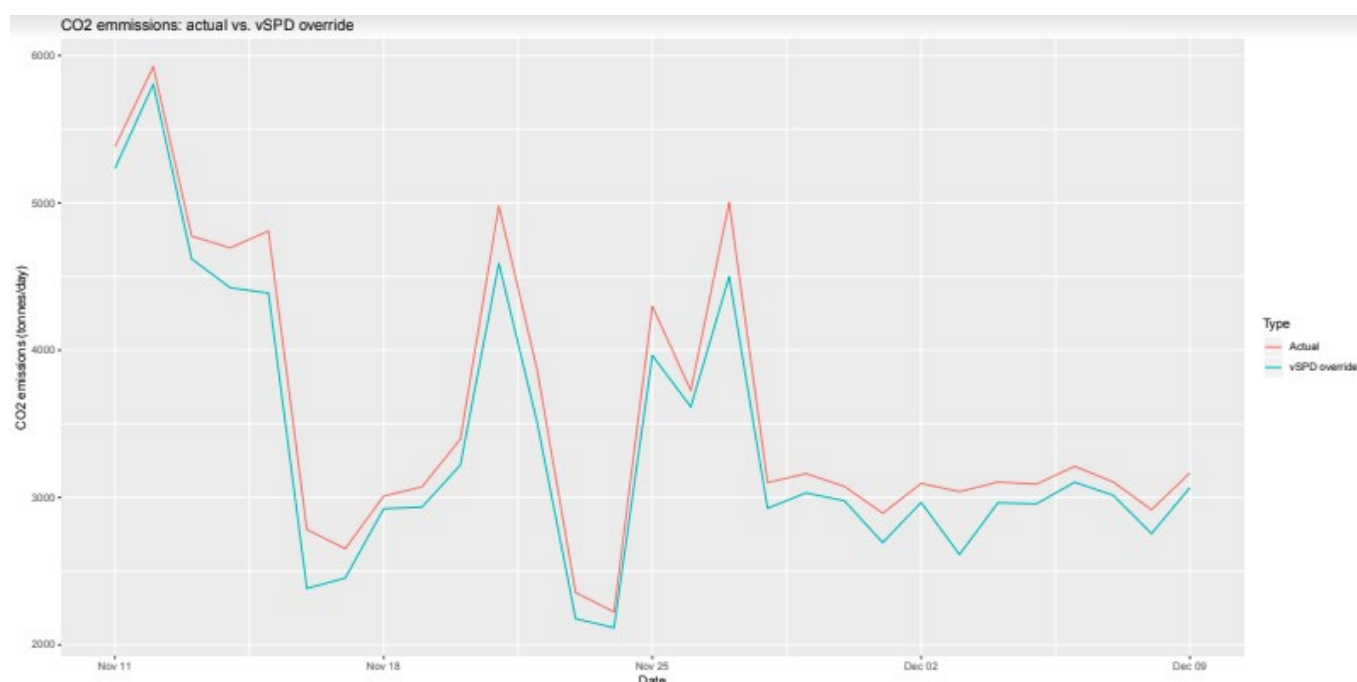


Figure 7: There is a clear and consistent reduction in carbon emissions from electricity generation in the simulated scenario (green line)

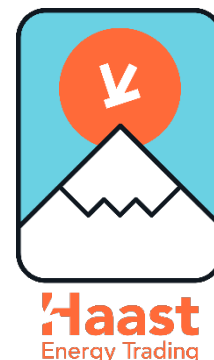
The value of water if the storage lake is full is zero

The Electricity Authority has been clear that: “Water has no value in an economic sense when it is so abundant that there are no constraints on the use of water now or in the future in any activity”.²⁰

¹⁸ Refer to Appendix 5.

¹⁹ NB the source of the CO₂ emission rates is as follows: for HLY5 and HLY1-4 when burning coal: Table 12 of this document: <https://www.waikatoregion.govt.nz/assets/PageFiles/21888/TR201218.pdf>. The figure for HLY1-4 when burning gas was obtained from Tables 10 and 12 of the same document, specifically by multiplying the coal emission rate from Table 12 by the ratio of gas to coal combustion emissions from Table 10 (53.3/89.4). The figure for the SFD peaker was obtained by multiplying its heat rate (9.5GJ/MWh, from <http://www.epoc.org.nz/papers/SecurityofSupply-Fulton2018.pdf>, Appendix 1) by an estimated CO₂ emission rate for gas plant (53.3, from Table 12 of this document: <https://www.waikatoregion.govt.nz/assets/PageFiles/21888/TR201218.pdf>).

²⁰ Dr Brent Layton, Chair, Electricity Authority, The Economics of Electricity, 4 June 2013, paragraph 18.



This is reinforced by the Authority's observation that "the opportunity cost of hydro storage ... is the value of water preserved for later use"²¹ which, by definition, is zero if the water cannot be stored i.e. when water is being spilled.

Consistent with the Authority's view, Poletti has also observed: "If the storage lake is full, and more water is flowing in, there is no value in storing any water for the future, i.e. the opportunity cost of using water is zero".²²

Contact and Meridian's breaches of the HSOTC Code requirements is unambiguous

Haast considers this to be one of the most unambiguous and clearest breaches of the HSOTC Code requirements.

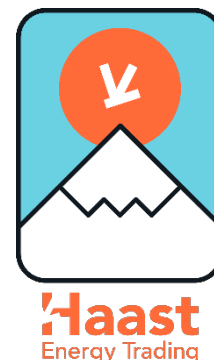
The fact the 'opportunity cost' or water value is zero when water is being spilt makes it straightforward to compare the generator's offer prices against SRMC to determine whether the generator has mis-used market power to offer generation above workably competitive market levels and raise spot prices.

As we have demonstrated above, it is a relatively straight-forward matter to use vSPD modelling to 'correct' the offer prices to workably competitive levels to determine the level of excess wholesale electricity prices (and excess returns for the generator), as well as other indirect adverse impacts such as increased use of higher cost generation plant (such as Huntly) and higher New Zealand CO2 emissions. The modelling Haast has undertaken reflects the following:

- There was water spilled at Clyde, Manapouri and Roxburgh that could have been used to generate electricity e.g. Contact had sufficient flow at Clyde to run Clyde and Roxburgh near maximum capacity 24/7 since November 11.
- We then assumed that the SRMC for CYD, ROX and MAN water was \$5 for the entire period (11th November to 9 December). We chose \$5 to reflect: (i) the water value was virtually \$0 for the entire period (11th Nov to 9 Dec), but there may be some O&M costs etc which could mean SRMC is above zero.
- We ran an experiment with vSPD where we offered in these stations' full capacity at \$5.
- The vSPD results show that prices would have been approximately \$30 lower if the CYD/ROX/MAN water was priced at \$5.

²¹ Dr Brent Layton, Chair, Electricity Authority, The Economics of Electricity, 4 June 2013, paragraph 26.

²² Stephen Poletti, University of Auckland, Market Power in the NZ wholesale market 2010-2016.



Application of the Authority's statutory objective to determine whether there has been a breach of the HSOTC requirements

Bell Gully has provided the Market Design Advisory Group (MDAG) advice that “In interpreting the trading conduct provisions, we would expect a court to first consider: ... the purpose of the Code as set out in s 32 of the Electricity Industry Act 2010 (the Act)”.²³

The Authority interprets its statutory objective in section 15 of the Electricity Industry Act 2010 (Act) “To promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers” as referring to “workable or effective competition”.²⁴ The Authority also elaborated that it used a short-term, allocative efficiency, benchmark of short-run marginal cost (SRMC) to determine workably competitive market outcomes:²⁵

“... workable competition delivers benefits to consumers by placing pressure on firms to set their prices close to their marginal cost of supply. Prices above this marginal cost of supply cause consumers to forgo goods and services that they value more highly than it costs to supply them. That is an allocatively inefficient outcome, as consumer surplus is forgone.” [emphasis added]

Consistent with this, the Authority “... Board also noted that ideally prices in a pivotal supplier situation would ... settle at a level just below the short run marginal cost of the next best alternative”.²⁶

In the Authority's market performance review of the High Prices on 2 June 2016, the Authority took a longer-term, more dynamic, perspective to the meaning of workable competition than it did in its interpretation of its statutory objective:²⁷

“The Authority's underlying benchmark for competition is workable competition. Workable competition is a dynamic view of markets that encompasses prices deviating from long term equilibrium levels as long as barriers to entry are low so that, in the long term, prices move towards competitive levels.”

While the two positions are different they are consistent. The positions presented in the Interpretation of the Statutory Objective and the market performance review, individually, only tell part of the story of the outcomes in a workably competitive market: what can be expected is that in the short-term (half-hour by half-hour) pricing is based on SRMC, while in equilibrium (a theoretical construct that is never actually achieved) or on average, over-time, SRMC/prices will tend towards long-run marginal cost (LRMC). The Authority's 2 June 2016 market performance review also explicitly referred to SRMC as being the relevant benchmark²⁸ and made no reference to LRMC as being relevant to the review.²⁹

What this means is that when it is being tested whether prices are consistent with workably competitive markets in any given half-hour, the relevant test is whether generation offers and wholesale electricity prices reflect or exceed SRMC, but when prices are being looked at over an extended period, e.g. over year or longer, the relevant test is whether prices reflect or exceed LRMC. This interpretation is an orthodox economic description of how competitive markets work.

²³ Bell Gully, INTERPRETATION OF THE TRADING CONDUCT PROVISIONS, Summary of interpretative aids, 27 August 2018.

²⁴ Electricity Authority, Interpretation of the Authority's statutory objective, section 2.2.1(a).

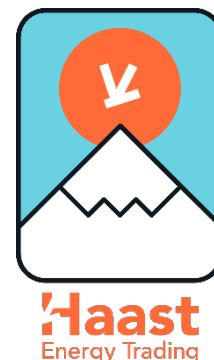
²⁵ Electricity Authority, Interpretation of the Authority's statutory objective, section A.22.

²⁶ Letter from Carl Hansen (CEO, Electricity Authority) to John Hancock (WAG Chair), “Feedback from the Board on WAG discussion paper”, 12 April 2013.

²⁷ Electricity Authority, High Prices on 2 June 2016, Market performance review, 18 December 2017, paragraph 9.4.

²⁸ Electricity Authority, High Prices on 2 June 2016, Market performance review, 18 December 2017, paragraph 8.24.

²⁹ The only reference to LRMC was the statement that: “Contact advised that its standard practice is to offer Whirinaki close to its short run marginal cost (SRMC) when covering its own book, and near Whirinaki's long run marginal cost (LRMC) when selling above its contracted position” at paragraph 4.16.



The High Court has also discussed the meaning of workable competition including:

“A workably competitive market is one that provides outcomes that are reasonably close to those found in strongly competitive markets. Such outcomes are summarised in economic terminology by the term “economic efficiency” with its familiar components: technical efficiency, allocative efficiency and dynamic efficiency. Closely associated with the idea of efficiency is the condition that prices reflect efficient costs (including the cost of capital, and thus a reasonable level of profit).”³⁰

“In a workably competitive market no firm has significant market power and consequently prices are not too much or for too long significantly above costs.”³¹

“Workable competition implies that no player has excessive market power.”³²

“... workably competitive markets have a tendency towards generating certain outcomes. These outcomes include the earning by firms of normal rates of return, and the existence of prices that reflect such normal rates of return, after covering the firms’ efficient costs.”³³

“ ... the prices that tend to be generated in workably competitive markets will provide incentives for efficient investment and for innovation.”³⁴

“In short, the tendencies in workably competitive markets will be towards the outcomes produced in strongly competitive markets. ... The more those tendencies are seen in a market, the more the market can be regarded as workably competitive. And of course, the more competitive the market, the more those tendencies will be seen.”³⁵

The interpretation Haast takes from the above guidance on workably competitive market outcomes is that:

- Workable competition tends towards strong competition;
- There is no excessive market power or mis-use of market power in a workably competitive market;
- The outcomes of workable competition include productive (or technical), allocative (SRMC pricing) efficiency and dynamic efficiency;
- Prices should reflect the firms’ efficient costs and should not result in sustained excessive (above normal) returns. Above normal returns are a temporary reward for superior efficiency;
- In the short-run (half-hour by half-hour) prices should reflect SRMC; and
- In the long-run prices should tend towards or average LRMC.

Contact and Meridian’s conduct is inconsistent with the Authority’s statutory objective

Haast considers that when Contact and Meridian’s trading conduct is compared against workably competitive market outcomes and the statutory objective, the conclusions the Authority reached in relation to Meridian’s 2 June 2016 are, at least, equally, if not more applicable, to the conduct that has given rise to this HSOTC breach allegation.

³⁰ WELLINGTON INTERNATIONAL AIRPORT LTD & ORS v COMMERCE COMMISSION [2013] NZHC [11 December 2013], paragraph [14].

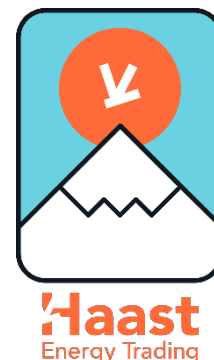
³¹ WELLINGTON INTERNATIONAL AIRPORT LTD & ORS v COMMERCE COMMISSION [2013] NZHC [11 December 2013], paragraph [15].

³² WELLINGTON INTERNATIONAL AIRPORT LTD & ORS v COMMERCE COMMISSION [2013] NZHC [11 December 2013], paragraph [17].

³³ WELLINGTON INTERNATIONAL AIRPORT LTD & ORS v COMMERCE COMMISSION [2013] NZHC [11 December 2013], paragraph [18].

³⁴ WELLINGTON INTERNATIONAL AIRPORT LTD & ORS v COMMERCE COMMISSION [2013] NZHC [11 December 2013], paragraph [20].

³⁵ WELLINGTON INTERNATIONAL AIRPORT LTD & ORS v COMMERCE COMMISSION [2013] NZHC [11 December 2013], paragraphs [22] – [23].



The high South Island prices, just like for 2 June 2016, was the result of trading behaviour that was inconsistent with the Authority's statutory objective to promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers.

As with 2 June 2016:

"The high South Island prices ... were inconsistent with workable competition ... A market is statically efficient if price equals cost in a particular time period. A market is dynamically efficient in a workable competition sense if it tends towards an efficient equilibrium over time. Prices above cost due to innovation or superior performance can occur in a workably competitive market. The high ... prices ... were inconsistent with workable competition because they did not provide a useful price signal to potential entrants, and it was not the result of innovation or superior performance.

"Meridian's profit from the higher ... energy prices ... was not a return to innovation or superior performance ... The only reason it was able to employ this approach was because of its size—Meridian owns approximately 65 per cent of South Island generation capacity."³⁶

"This offer approach contributed to high spot prices ... that:

- did not signal scarcity
- were not the result of innovation
- created no useful signal for potential entrants".³⁷

Meridian (along with Contact) has again adopted an "offer approach" which has resulted in "prices [moving] away from workably competitive levels"³⁸ and which "were inconsistent with workable competition".³⁹ This is clearly reflected in Meridian's Manapouri generation offers exceeding SRMC (based on a zero water value) and resulting in higher than otherwise (above workably competitive market) wholesale electricity prices.

By way of example also, the Authority's conclusions about "Inefficient locational signals" are directly applicable:⁴⁰

"Raising prices in the South Island when there is abundant supply has the potential to:

- (a) lead to higher South Island retail and hedge prices in the long term
- (b) incentivise over-investment in South Island peaking generation.

"These would be inefficient outcomes if there is fundamentally no supply scarcity.

...

"The high South Island prices also did not provide an efficient signal for more demand response in the South Island. ... Under these circumstances, this would mean that demand response providers would simply be avoiding artificially high energy prices, so any entry would be a response to this practice rather than a response to fundamental scarcity in the market."

The nature of the breach was a form of market manipulation

Bell Gully has provided advise to MDAG that "In addition to considering what conduct is acceptable in individual comparable markets, we consider that a court would also be persuaded by evidence that certain standards of conduct are consistent across several markets. In particular, we consider that the universality of the following provisions makes it highly likely that they form part of a "high standard of trading conduct": ... prohibitions on market manipulation, including: ... prohibitions on trading with an improper purpose".⁴¹

³⁶ Electricity Authority, High Prices on 2 June 2016, Market performance review, 18 December 2017, paragraphs 9.1 and 9.2.

³⁷ Electricity Authority, High Prices on 2 June 2016, Market performance review, 18 December 2017, page ii.

³⁸ Electricity Authority, High Prices on 2 June 2016, Market performance review, 18 December 2017, paragraph 8.14.

³⁹ Electricity Authority, High Prices on 2 June 2016, Market performance review, 18 December 2017, section 9.

⁴⁰ Electricity Authority, High Prices on 2 June 2016, Market performance review, 18 December 2017, paragraphs 8.3 - 8.6.

⁴¹ Bell Gully, INTERPRETATION OF THE TRADING CONDUCT PROVISIONS, Summary of interpretative aids, 27 August 2018, paragraph 4.6.



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The UTS provisions also specify that “examples of what the Authority may consider to constitute an undesirable trading situation” include “manipulative or attempted manipulative trading activity” (clause 5.1(2)(a)).

Contact and Meridian’s conduct was a form of “market manipulation” (artificially raising prices above cost-based or workably competitive levels” and had “an improper purpose” (to extract excessive revenues and profits to the detriment of competing retailers and consumers).

Wider environmental and NZ Inc reputational considerations

Haast considers that the wider implications for New Zealand of Contact and Meridian’s conduct resulting in New Zealand relying more than necessary on thermal generation, resulting in higher CO2 emissions, is something that should be taken into account in considering the harm caused by Meridian’s breach of the HSOTC Code requirements.

The nature of the breach is particularly cynical and hypocritical given Meridian likes to virtue signal about being 100% renewable. Meridian leverages off 100% renewable generation claims to improve its reputation and as part of its branding and marketing while, at the same time, its own actions and market abuses result in higher CO2 emissions.

It should also be recognised the increase in thermal/non-renewable generation resulting from Contact and Meridian’s trading conduct also resulted in other forms of pollutants and emissions, from the additional coal-fired generation at Huntly, including sulphur dioxide, nitrogen oxides, particulate matter (PM), and heavy metals

Safe harbour provisions have been breached

Contact and Meridian’s trading conduct is in breach of the safe harbour provisions, including as a consequence of the Clyde, Manapouri and Roxburgh offers resulting “in a material increase in the final price at which electricity is supplied” (clause 13.5B(1)(c)(i) of the Code) and Contact and Meridian benefitted “financially from an increase in the final price” (clause 13.5B(1)(c)(iii) of the Code).

We do not consider that Meridian can comply with the safe harbour provision that the “generator’s offers are generally consistent with offers it has made when it has not been pivotal” (clause 13.5B(1)(c)(ii) of the Code) as Meridian is pivotal 100% of the time. Haast considers that it is not possible for Meridian to be protected by the safe harbour provisions because it is always pivotal.

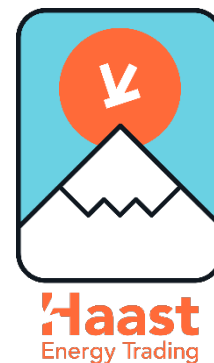
With regards to Contact, they have not made offers for all of their available capacity and therefore also cannot be in the safe harbour.⁴²

A breach finding would provide important HSOTC precedent

In our 23 August 2019 letter re “16 August 2019 Settlement Meetings” we noted “There is important precedent value from the Authority reaching a decision that Genesis’ conduct had breached the HSOTC provisions and in relation to any sanctions that are determined”. This is particularly true in relation to Meridian given it wasn’t the first time Meridian has breached the HSOTC provisions.

It is clear from the Authority’s previous breach finding that Contact and Meridian had been breaching the HSOTC provisions on a regular basis. Despite the Authority’s warning at the time, it is clear Contact and

⁴² Refer to Appendix 10.



Meridian have continued to conduct themselves in a way that breaches the HSOTC provisions and that this is not simply an isolated or one-off incident.

Haast consider it abundantly clear Contact and Meridian are in breach the HSOTC Code requirements and any reasonably well-informed market participant would have understood their actions were not of a high standard.

A finding that Contact and Meridian had breached the HSOTC provisions would provide useful precedent in relation to how the HSOTC Rules should be interpreted and what is a breach.

Using market power to manage locational price spreads

One of the likely motivations for Meridian and Contact to withhold generation from the spilling reservoirs is to manage the locational prices spreads between the lower South Island and the rest of the market. The Authority board has previously commented “the Board would have expected Meridian to have covered its North Island exposure using other available risk management products or, if it chose not to do that, then to bear the cost of the risk if it eventuates.”⁴³ By continuing to use market power rather than the available hedge instruments to manage locational price risk Meridian and Contact are undermining liquidity in hedge markets and ignoring the warning letter which was issued to Meridian.

Remedy for the breach that Haast is seeking

Haast is seeking that wholesale electricity prices are reset on the basis of a \$5 offer price for both Meridian (Manapouri) and Contact (Roxburgh and Clyde). The \$5 level is chosen to reflect a near zero water value plus a small O&M component. We would support a sanction that not only required Contact and Meridian to pay back the excess spot prices, but also included a penalty element to send a strong message to generators that they should not use market power or engage in this type of conduct.

We note and support Meridian’s view that where “a generator has take[n] advantage of a net pivotal position in circumstances where there is no energy or capacity shortage, prices should be “normalised” by being returned to workably competitive levels” and if “offers are reduced to a level ... higher than “normal” ... as Meridian has previously submitted, generators could well begin to actively seek net pivotal status”.

Meridian’s 100%-owned subsidiary similarly commented in favour of resetting offers at SRMC: “SRMC provides more accurate price signals for both buyers and investors. SRMC will also have the highly desirable effect of discouraging generators from exploiting transmission outages which is in the long term interest of consumers”.⁴⁴

Concluding remarks

The nature of Contact and Meridian’s trading conduct is extraordinary. Wholesale prices are delivering at unprecedented levels in the context of record hydro storage and now relatively low gas prices.

In dry year situations there is uncertainty about the extent to which high prices genuinely reflect market circumstances (with uncertainty about what the genuine value (opportunity cost) of water is) or abuse of market power.

⁴³ 4 May 2017 Decision regarding Code breach on 6 June 2016 where Meridian withdrew offers to manage location prices.

⁴⁴ Powershop, Proposed actions of the Electricity Authority under Part 5 of the Electricity Industry Participation Code to correct the Undesirable Trading Situation on 26 March 2011, 26 March 2011.



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In circumstances where there is water spill there is no such uncertainty. The water value is clearly zero. Offer prices that don't reflect the zero water value are a clear mis-use of market power.

Our simulations show Meridian's generation business has extracted excess revenue of \$38m in the month since 10 November 2019 and Contact's by \$23m. We consider that the scale of monopoly pricing goes well beyond a breach of the HSOTC provisions and amounts to a UTS. The situation is on-going and is currently leading to \$3-4m per day of excess generation revenue.⁴⁵

There is important precedent value from the Authority reaching a decision that Contact and Meridian's conduct breached the HSOTC Rules and UTS provisions and in relation to any sanctions that are determined.

Yours sincerely,

Phillip Anderson
Managing Director
Haast Energy Trading
phill@haastenergy.com
+64 21 460 040

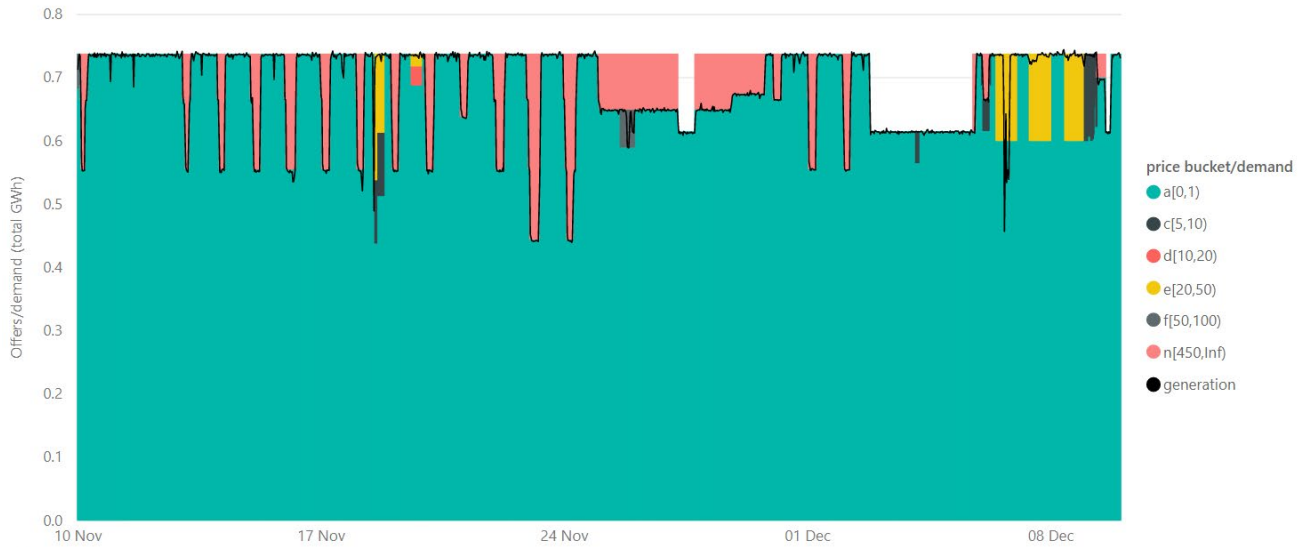
⁴⁵ Refer to Appendix 8.



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Appendix 1: Manapouri generation offers

Offer stacks and demand



Spot prices

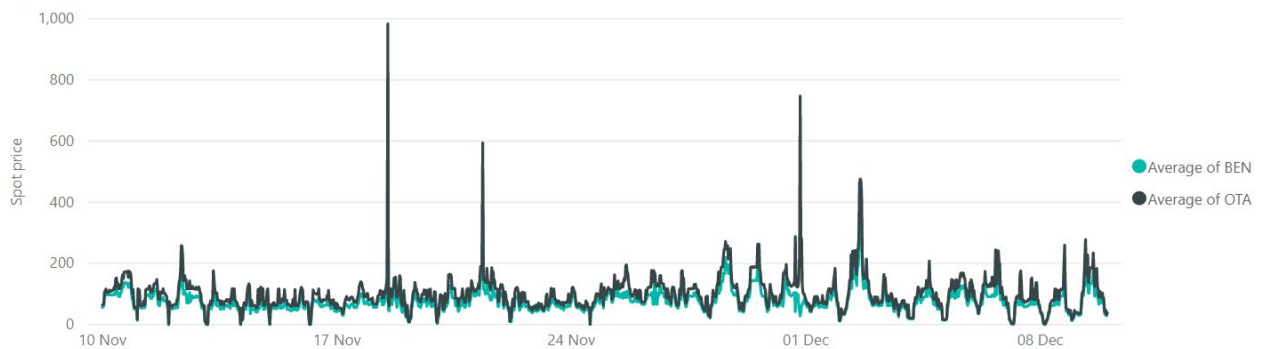


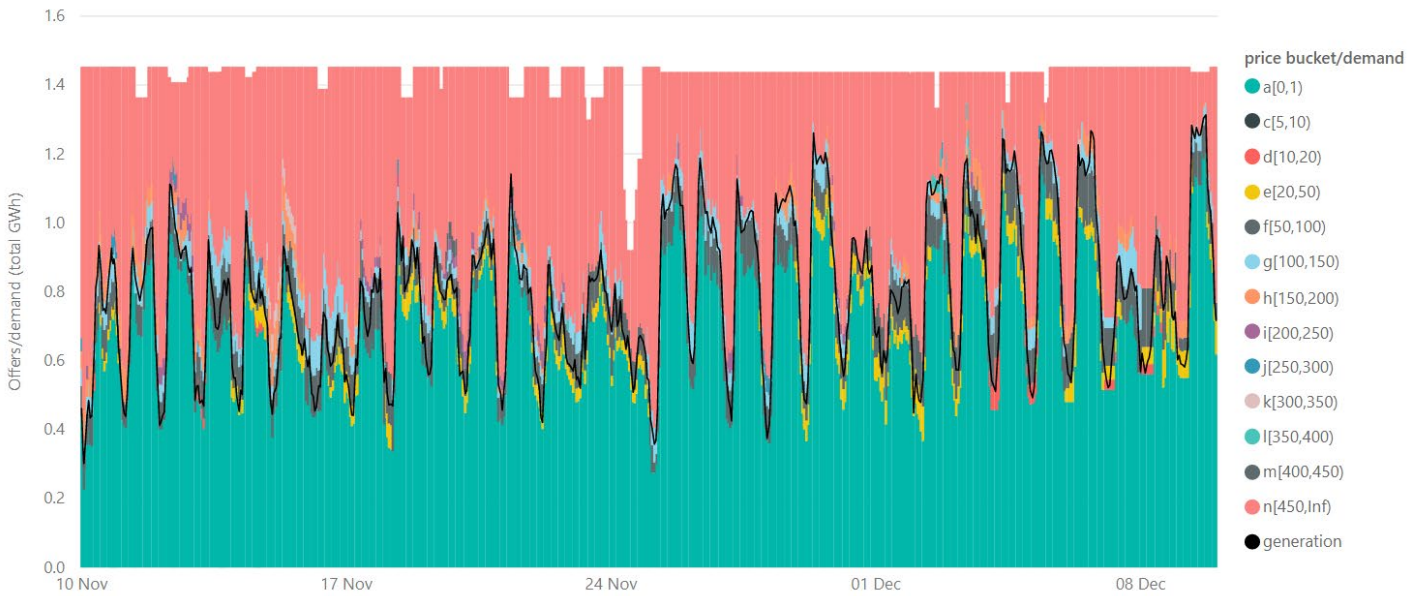
Figure 8: Manapouri offer stack and generation from 10 November, when Meridian commenced spilling, to 9 December. The offers shaded rose indicate capacity offered to the market above \$450.



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Appendix 2: Waitaki generation offers

Offer stacks and demand



Spot prices

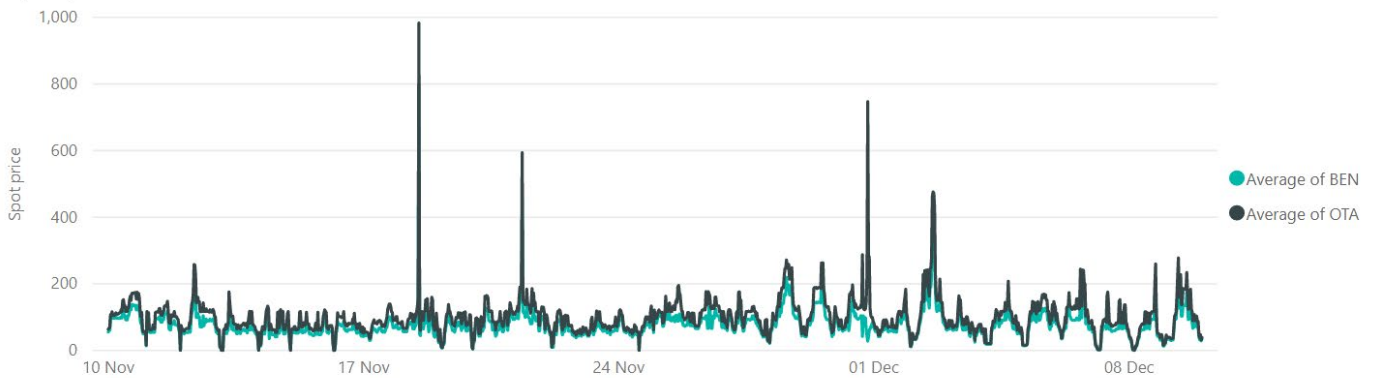


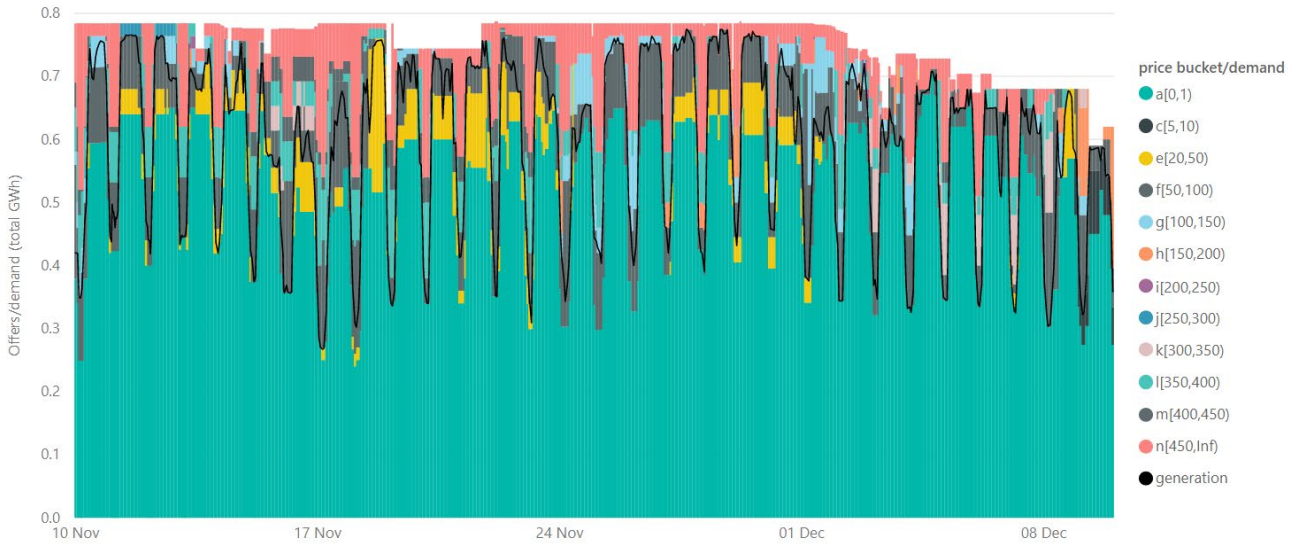
Figure 9: Waitaki offer stack and generation from 10 November, when Meridian commenced spilling at Manapouri, to 9 December. Offers resulted in prices rarely falling below \$50, despite frequent occasions when Manapouri was under-utilised and excess water was spilled.



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Appendix 3: Clutha generation offers

Offer stacks and demand



Spot prices

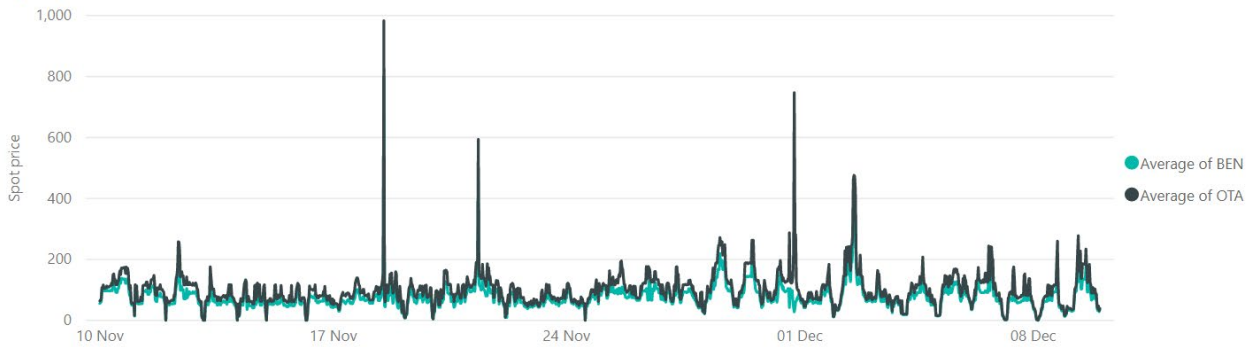


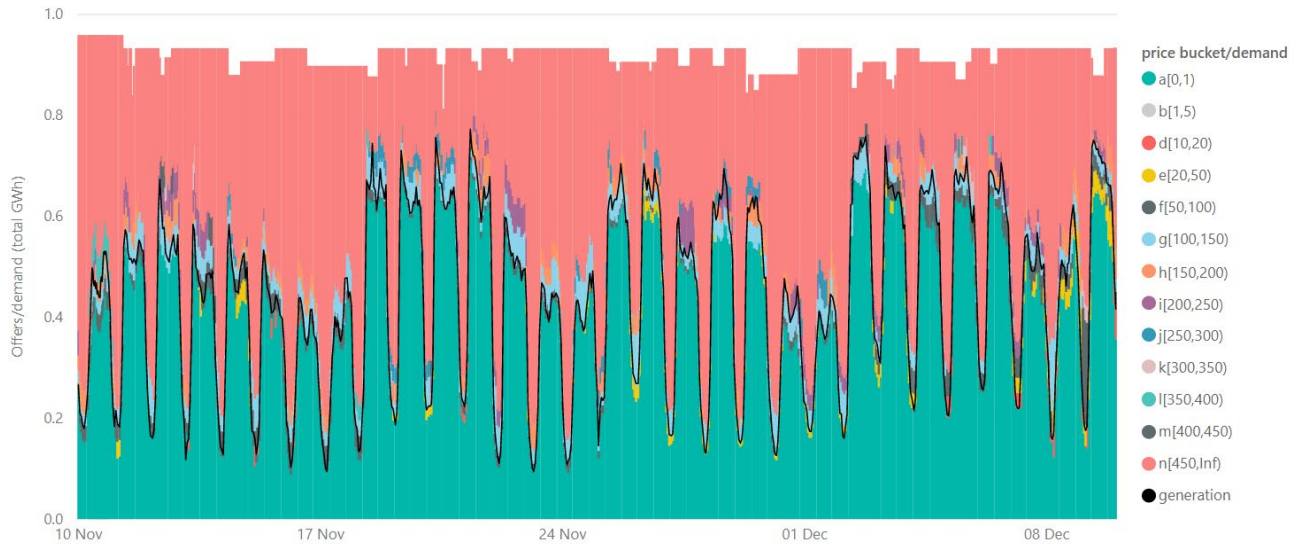
Figure 10: Clutha offer stack and generation from 10 November to 9 December. Offers resulted in prices rarely falling below \$50 and frequently reaching over \$150, while the scheme almost always had spare capacity but was spilling water to support prices.



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Appendix 4: Mercury (Waikato river chain) hydro generation

Offer stacks and demand



Spot prices

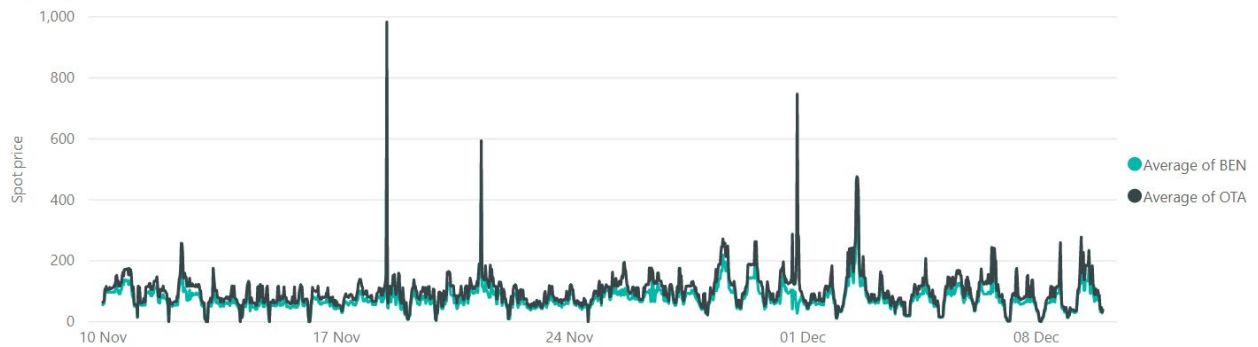


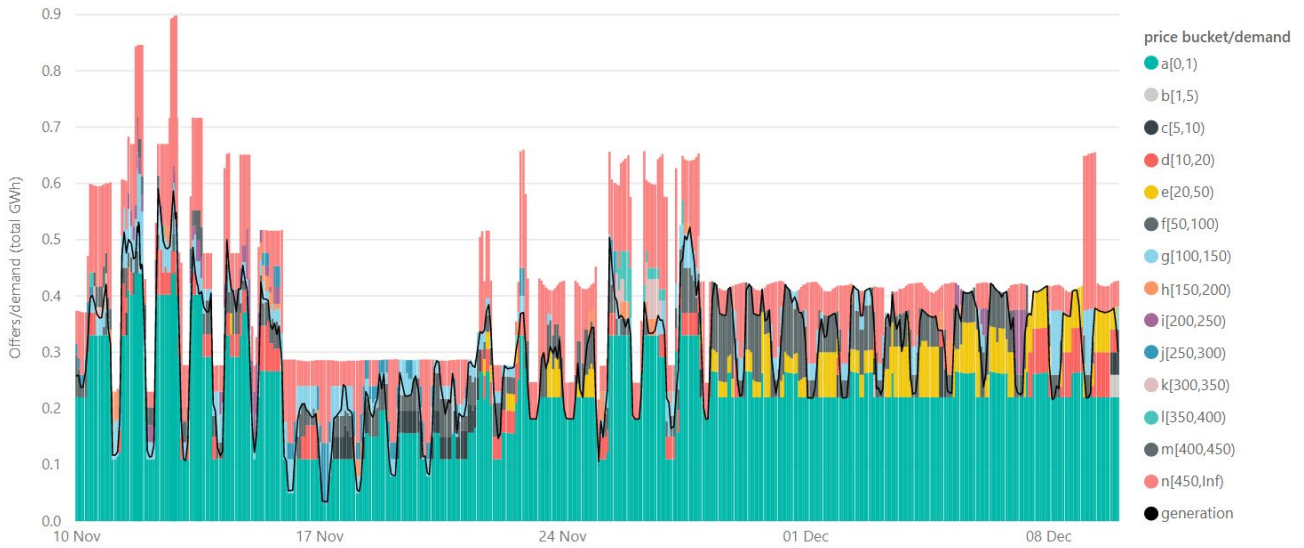
Figure 11: An increase in South Island offer volume at \$5 would have reduced dispatch of storable North Island water



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Appendix 5: Genesis (Huntly) thermal generation

Offer stacks and demand



Spot prices

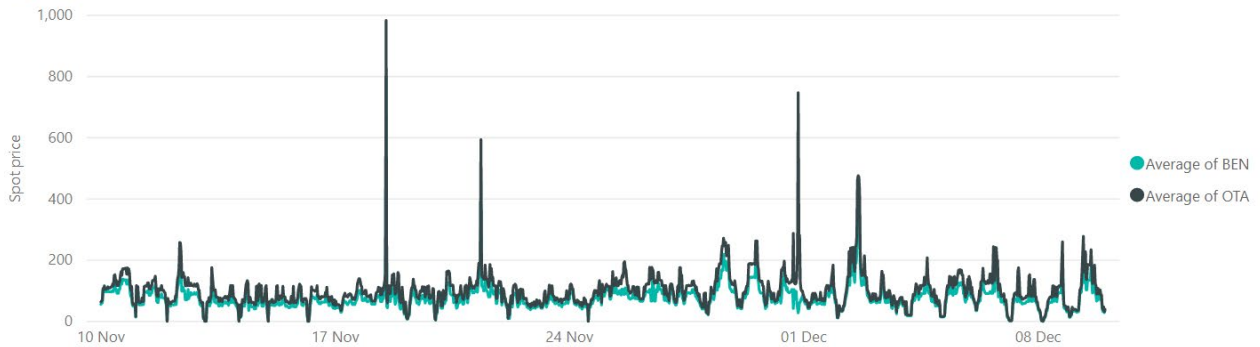
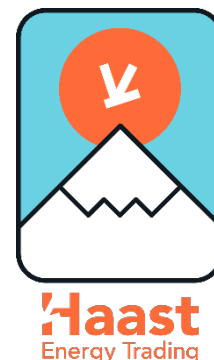


Figure 12: An increase in South Island offer volume at \$5 would have reduced dispatch of Huntly generation



Appendix 6: Assumptions made during analysis

- For the vSPD override runs, it was assumed that Manapouri and Clutha offered all available capacity at \$5.
- For the excess CO2 emissions analysis, the following emission rates were assumed (tonnes of CO2 per MWh of electricity generated)⁴⁶:
 - HLY5: 0.394.
 - HLY1-4: 0.974 if burning coal, 0.581 if burning gas.
 - SFD peakers: 0.506.
- For the excess CO2 emissions analysis, it was assumed that rankines burnt 50% gas, 50% coal.
- It was assumed that lost North Island storage could be estimated as the difference in generation under the base scenario and vSPD override summed across hydro stations in the Waikato and Waikaremoana catchments (ARA2201 ARA0, ARI1101 ARI0, ARI1102 ARI0, ATI2201 ATI0, KPO1101 KPO0, MTI2201 MTI0, OHK2201 OHK0, RPO2201 RPO0, TKU2201 TKU0, TUI1101 KTWO, TUI1101 PRI0, TUI1101 TUI0, WKM2201 WKMO, and WPA2201 WPA0).

⁴⁶ NB the source of the CO2 emission rates is as follows: for HLY5 and HLY1-4 when burning coal: Table 12 of this document: <https://www.waikatoregion.govt.nz/assets/PageFiles/21888/TR201218.pdf>. The figure for HLY1-4 when burning gas was obtained from Tables 10 and 12 of the same document, specifically by multiplying the coal emission rate from Table 12 by the ratio of gas to coal combustion emissions from Table 10 (53.3/89.4). The figure for the SFD peaker was obtained by multiplying its heat rate (9.5GJ/MWh, from <http://www.epoc.org.nz/papers/SecurityofSupply-Fulton2018.pdf>, Appendix 1) by an estimated CO2 emission rate for gas plant (53.3, from Table 12 of this document: <https://www.waikatoregion.govt.nz/assets/PageFiles/21888/TR201218.pdf>).



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Appendix 7: VSPD files

vSPD files used in the analysis. Available from <https://www.emi.ea.govt.nz/vSPD-online>

JOB NAME	OVERRIDE	DESCRIPTION	CREATED BY	CREATED DATE	FINISHED	DURATION	DOWNLOAD
+ nov_11-14_mrc_override	Man Rox Clyde v2	Nov 11-14 with Manapouri/Roxborough/Clyde offering all volume at \$5	jonathan	10/12/2019	10/12/19 19:20	23 minutes and 7 seconds	↓
+ nov_11-14_base		Nov 11-14 base case (no override)	jonathan	10/12/2019	10/12/19 18:57	18 minutes and 30 seconds	↓
+ dec_3-9_base		Dec 3-9 base case (no override)	jonathan	10/12/2019	10/12/19 18:24	30 minutes and 42 seconds	↓
+ dec_3-9_mrc_override	Man Rox Clyde v2	Dec 3-9 with Manapouri/Roxborough/Clyde offering all volume at \$5	jonathan	10/12/2019	10/12/19 17:53	32 minutes and 2 seconds	↓
+ nov_27-dec_2_base		Nov 27-Dec 2 base case (no override)	jonathan	10/12/2019	10/12/19 17:21	26 minutes and 10 seconds	↓
+ nov_27-dec_2_mrc_override	Man Rox Clyde v2	Nov 27-Dec 2 with Manapouri/Roxborough/Clyde offering all volume at \$5	jonathan	10/12/2019	10/12/19 16:55	28 minutes and 16 seconds	↓
+ nov_15-21_base		Nov 15-21 base case (no override)	jonathan	10/12/2019	10/12/19 16:23	30 minutes and 8 seconds	↓
+ nov_22-26_base		Nov 22-26 base case (no override)	jonathan	10/12/2019	10/12/19 15:52	21 minutes and 35 seconds	↓
+ nov_15-21_mrc_override	Man Rox Clyde v2	Nov 15-21 with Manapouri/Roxborough/Clyde offering all volume at \$5	jonathan	10/12/2019	10/12/19 15:27	33 minutes and 7 seconds	↓
+ nov_22-26_mrc_override	Man Rox Clyde v2	Nov 22-26 with Manapouri/Roxborough/Clyde offering all volume at \$5	jonathan	10/12/2019	10/12/19 14:47	25 minutes and 13 seconds	↓



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Appendix 8: Summary data from VSPD runs

The following table highlights some differences between actual dispatch and the VSPD runs outputs if the spilling hydro catchments were offered at \$5.

Metric	Unit	Value (sum of all trading periods, 11/11-9/12)	Value (daily avg)	Description*
ota_excess	\$/MWh	NA	32.9	Excess OTA price
ben_excess	\$/Mwh	NA	30.9	Excess BEN price
revenue_excess	\$	99,099,453	3,417,223	Excess revenue collected by all generators
revenue_excess_meri	\$	37,970,356	1,309,323	Excess revenue collected by Meridian
revenue_excess_contact	\$	22,649,108	781,004	Excess revenue collected by Contact
cost_excess	\$	95,634,700	3,297,748	Excess price paid across all load nodes
co2_excess	tonnes	5,984	206	Excess CO2 released across all thermal generators
lost_ni_storage	MWh	15,036	519	Reduction in storable NI water as a result of unnecessary dispatch
reduced_hvdc	MWh	32,613	1,125	Reduction in HVDC flows

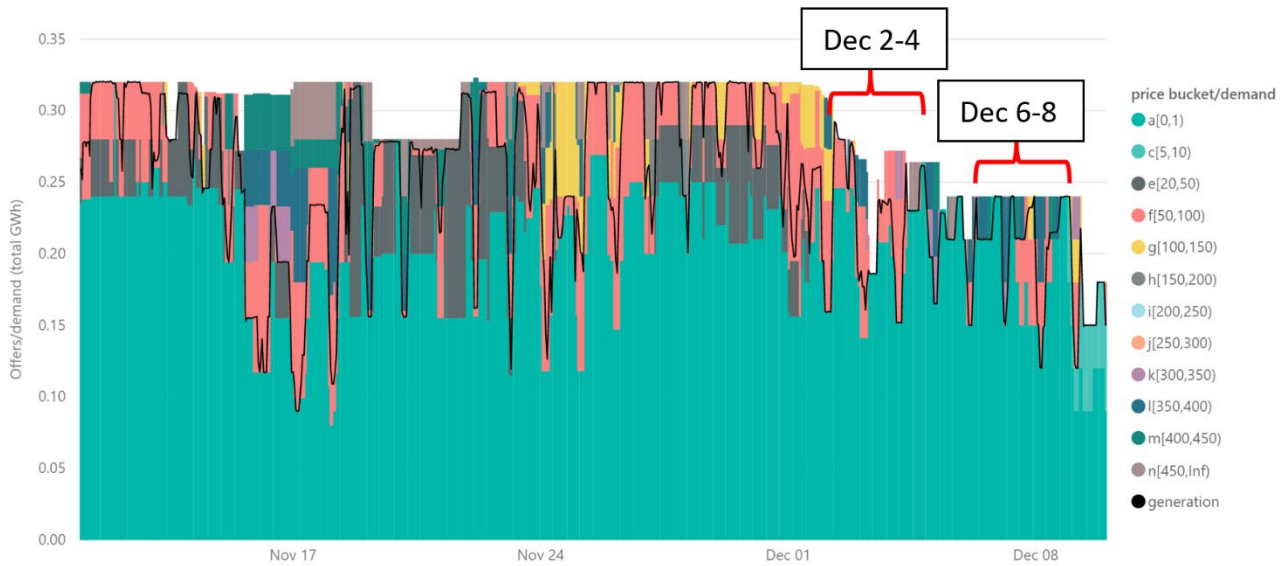
*'Excess' or 'reduction' refers to the difference in values between the actual outcome and that output from vSPD assuming Manapouri/Clutha offered all volume at \$5



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Appendix 10: Evidence for offers not being made for full ROX available capacity.

There appears to be a number of periods where the full ROX capacity was not offered and there was no declared outage that explained the missing offers, but in particular we highlight the periods between Dec 2-4 and Dec 6-8.



ROX outages declared on POCP:

Outage Block:

Outage ID:

Active: 11/11/2019 to 09/12/2019

Weeks: from today

GXP/GIPs:

Group:

Region:

Sort by start time

Owners: Tentative Confirmed Cancelled Completed

Outage Block	Group	Start	End	Type	Owner	Planning	MW Remain	MW Loss
ROX_1		11 Nov 2019 09:00	11 Nov 2019 15:00	daily	Contact Energy	cancelled	unknown	40.00
ROX_8		13 Nov 2019 11:00	13 Nov 2019 17:30	continuous	Contact Energy	completed	unknown	40.00
ROX_1		14 Nov 2019 10:00	14 Nov 2019 12:00	continuous	Contact Energy	completed	unknown	40.00
ROX_1		19 Nov 2019 07:00	21 Nov 2019 17:30	continuous	Contact Energy	completed	unknown	40.00
ROX_3		5 Dec 2019 07:00	5 Dec 2019 12:00	continuous	Contact Energy	completed	unknown	40.00
ROX_1		9 Dec 2019 07:00	13 Dec 2019 17:30	continuous	Contact Energy	confirmed	unknown	40.00
ROX_5		9 Dec 2019 07:00	13 Dec 2019 18:00	continuous	Contact Energy	confirmed	unknown	40.00



2 December 2019

Tony Baldwin
Chair
MDAG
Electricity Authority
By email: tony@tonybaldwin.co.nz

CC: MDAG members, James Stevenson-Wallace, Matt Rowe

Critique of Concept's report "Review of impact of trading conduct enforcement action on spot prices"

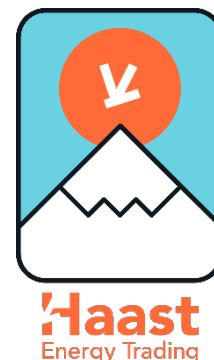
Haast Energy Trading (Haast) has reviewed Concept's report "Review of impact of trading conduct enforcement action on spot prices" (the Concept Report), August 2019, to test the validity of the report, including the extent to which it helps inform whether there has been a structural or behavioural shift in the wholesale electricity market and in wholesale electricity pricing. Our finding is that, once corrected for modelling issues, the Concept Report does not support the hypothesis that there has been no structural shift from May 2017. We also note Concept's finding that there may have been a structural shift or "breakpoint" in February 2017.¹

Summary of Haast's views

- A substantive problem with the Concept Report, or at least the Terms of Reference (ToR) for the Report, is that, as its title suggests, it narrowly focussed on "Review of impact of trading conduct enforcement action on spot prices". This failed to recognise the central hypothesis of Matt Rowe's article² was that there had been a structural shift in wholesale electricity price formation, and "there could be many reasons for this change in offer behaviour". The Concept Report instead exclusively focussed on Matt Rowe's question whether "the fact that the Electricity Authority had on the 8th May 2017 issued one of the generators, Meridian Energy, with a warning for their offer behaviour ... had the unintended consequence of ongoing higher prices due to a change to defensible market behaviour?"
- The question of whether there has been a significant structural shift in electricity spot prices that is not explained by changes in market fundamentals is important. If confirmed it would suggest some generators are significantly altering wholesale prices in a way that benefits themselves, to the long-term detriment of consumers, by changing how they offer their plant. This would highlight that inadequate competition exists, price formation is not efficient, and better regulation and/or structural change is needed to address it.
- We consider that the evidence suggests Matt Rowe was right. Since May 2017, "[wholesale electricity] prices have been consistently higher than the average for the last few years, seemingly independent (and outside) of events that would have historically led to higher prices".
- We also consider Matt Rowe is correct that "It would appear that our electricity market price has somewhat disconnected from our hydro storage situation – it used to be when the southern lakes were at mean levels, water flowed through the turbines, and that electricity flowed into our market, resulting in what most of us deemed fair and reasonable prices".

¹ The Concept Report noted: "Off-peak offered quantity dropped dramatically in February, despite above average storage levels and a normally benign time of year. A Chow test for February 2017 returned an F-statistic of 3.6 and a p-value of 0.3%."

² <https://www.energynews.co.nz/column/wholesale-prices/43428/lakes-are-near-full-gas-fields-are-back-operating-so-why-are-new>



- A significant contributor to why Concept didn't find a shift from May 2017 was that their modelling inappropriately included gas prices. A Granger Causality test indicates electricity price affects gas price suggesting gas prices should have been omitted from Concept's analysis, or replaced with an independent variable that captured the gas market dynamics but was not significantly determined by the electricity price.
- We repeated Concept's regression analysis with gas price removed. This resulted in an average price increase of \$30 since May 2017 after controlling for hydrology. The increase was statistically significant.
- We also repeated the regression after replacing gas price with gas gross production, a variable derived from the publicly available MBIE gas statistics. Further – and unlike gas price – a Granger Causality test shows no evidence that this variable is affected by electricity prices. Our model using this improved gas variable replacing gas price in Concept's data set estimates that there has been a statistically significant price increase of \$22.6 since May 2017. This is after controlling for the effects of hydrology and gas. This result should lead the Authority to ask serious questions about what is changing in the market beyond gas and hydrology.
- If the Concept Report was to be useful it needed to take an inquisitive approach to whether there had been any structural or behavioural changes in the wholesale electricity market. The Concept Report indicated there was a shift in February 2017 supporting Matt Rowe's central hypothesis that "New Zealand has seen what many are calling a 'structural shift' in our pricing in the last couple of years, not dissimilar to what was seen in Australia a couple of years earlier". The February shift Concept identified should have been explored further.

MDAG should thoroughly test the Concept Report

The Concept Report should be thoroughly tested before MDAG draws firm conclusions from the findings of the report.

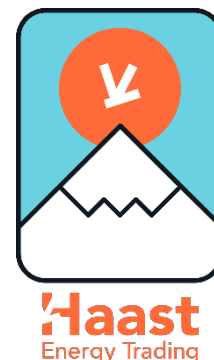
The Authority reminded MDAG, in the firmest terms, that "thorough testing" of "an issue squarely under consideration by the group" is necessary to ensure "analytically robust answers" and MDAG members are expected to "take an open minded approach". The Authority has warned this is essential to ensure "the robustness of the advice MDAG will ultimately provide to the Authority Board".³

This warning is particularly salient, in relation to the Concept Report, as Haast considers the ToR for the report was inappropriately narrow and focussed predominantly on discrediting Matt Rowe's article on high wholesale electricity prices.⁴ Consistent with the Authority's desire for "analytically robust answers", it would have been more appropriate if the ToR had sought an inquisitive testing of whether there has been a structural or behavioural shift (including the question of when) in the wholesale electricity market and in wholesale electricity pricing.

The limitations of the ToR has severely limited the potential usefulness of the Concept Report and creates an apparent evidential bias that there isn't a problem with changes in market conduct and behaviour.

³ Undated and untitled letter from Iana Miller (the Acting General Manager, Market Design) to Tony Baldwin (Chair, MDAG): <https://www.ea.govt.nz/dmsdocument/25596-letter-from-acting-gm-market-design-ilana-miller-to-mdag-chair-tony-baldwin>

⁴ <https://www.energynews.co.nz/column/wholesale-prices/43428/lakes-are-near-full-gas-fields-are-back-operating-so-why-are-new>



Concept should not have included gas prices in its statistical tests

Concept found that electricity prices were structurally higher after May 2017 but attributed this to changing in gas prices and hydro storage rather than, say, trading behaviour. This conclusion was based upon the finding that the wholesale electricity price increase was not statistically significant after ‘controlling’ for these physical factors.

While controlling for external factors is common, it is not appropriate if the factors are affected by the variable under assessment i.e. wholesale electricity prices. A Granger Causality test⁵ indicates electricity price indeed affects gas price,⁶ suggesting gas prices should have been omitted from Concept’s analysis:

Results of the Granger Causality test: are 1 day VWAP gas prices granger-caused by Benmore electricity prices? The small p-value indicates yes.

```
> grangertest(x = granger$ben, y = granger$gas_vwap_1day, order = 6)
Granger causality test

Model 1: granger$gas_vwap_1day ~ Lags(granger$gas_vwap_1day, 1:6) + Lags(granger$ben, 1:6)
Model 2: granger$gas_vwap_1day ~ Lags(granger$gas_vwap_1day, 1:6)
  Res.Df Df    F    Pr(>F)
1     1765  -6  7.0736 1.85e-07 ***
2     1771  -6  7.0736 1.85e-07 ***
```

In contrast, there is no evidence that hydro storage anomaly, Concept’s other key explanatory variable, is affected by electricity price:

Results of the Granger causality test: is storage anomaly granger-caused by Benmore electricity prices? The large p-value indicates ‘no’.

```
> grangertest(x = granger$ben, y = granger$storage_NZ_anom, order = 6) |
Granger causality test

Model 1: granger$storage_NZ_anom ~ Lags(granger$storage_NZ_anom, 1:6) + Lags(granger$ben,
1:6)
Model 2: granger$storage_NZ_anom ~ Lags(granger$storage_NZ_anom, 1:6)
  Res.Df Df    F    Pr(>F)
1     870  -6  1.4702 0.1846
2     876  -6  1.4702 0.1846
```

Given the results of the Granger test, we repeated Concept’s regression analysis with gas price removed. This resulted in an average price increase of \$30 since May 2017 after controlling for hydrology. The increase was statistically significant:

⁵ Granger causality tests whether previous values of a given variable x (e.g. electricity price) help to predict future values of another variable y (e.g. gas price) after controlling for any predictive power in the past values of y . In practice, this is done by assessing whether a regression of y as a function of its own lagged values is improved by adding lagged values of x . Our Granger tests have been applied to daily rather than monthly data, because we considered the latter sample size too small to demonstrate (Granger) cause and effect. This is evidenced by the fact that storage anomaly does not granger-cause electricity price if assessed on a monthly basis with the accompanied small sample size over the period, despite being widely recognised as being causal.

⁶ We have not explored the reasons for this relationship in detail, but from a high level we think it is fairly intuitive that the NZ gas and electricity markets are heavily interconnected and a significant amount of the time gas fired power stations are the marginal price setter in both markets.



Haast
Energy Trading

Reanalysis of Concept's regression model after removing gas price. Note the \$30 price increase after May 2017.

```
> f = lm(elec_price ~ rstor + after_may17, data = price)
> coefTest(f, vcov. = NeweyWest) #adjust for autocorrelation

t test of coefficients:

              Estimate Std. Error t value Pr(>|t|)
(Intercept) 74.1958722  4.9643126 14.9459 < 2.2e-16 ***
rstor        -0.0566489  0.0088749 -6.3831 7.902e-09 ***
after_may17  30.4517695  9.2257100  3.3008 0.001394 **
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

We investigated alternative options for including gas in the modelling

We acknowledge the gas market is an important driver of electricity price, however, it would have been more robust to model its effect using an independent variable which reflects the underlying drivers in the gas market but which is not significantly driven by electricity prices. We suggest gross gas production as provided by MBIE⁷ is an appropriate measure which captures the key dynamics of the gas market over this period. We believe supply shocks in the gas market have been the dominant feature of recent years and have therefore focussed on the supply side of the gas market. Gas production is not affected by electricity price, as indicated by the following Granger test:

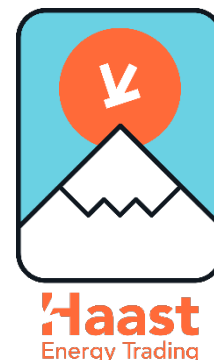
Results of the Granger causality test: is gross gas production granger-caused by Benmore electricity prices? The large p-value indicates 'no'.

```
> grangertest(x = granger$ben, y = log(granger$gas_prod), order = 6) |
Granger causality test

Model 1: log(granger$gas_prod) ~ Lags(log(granger$gas_prod), 1:6) + Lags(granger$ben, 1:6)
Model 2: log(granger$gas_prod) ~ Lags(log(granger$gas_prod), 1:6)
      Res.Df Df      F Pr(>F)
1         870   0 0.2036 0.9757
2         876  -6 0.2036 0.9757
```

When repeating Concept's regression analysis using gas production in place of gas price, the model estimates that prices have increased by \$22.6 since May 2017, after controlling for the effects of hydrology and gas. Further, the price increase is statistically significant as indicated by the small p-value.

⁷ Gross gas production was obtained from MBIE's gas statistics, published here: <https://www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-statistics-and-modelling/energy-statistics/gas-statistics/#data-tables-for-gas>. We believe this is an appropriate variable which captures supply available to the price sensitive consumption part of the gas market. Because MBIE's and Concept's data are quarterly and monthly, respectively, we imputed the gas data by dividing each quarter by three.



Output of the regression analysis

```
> f = lm(elec_price ~ gas_prod + rstor + after_may17, data = dat2)
> coeftest(f, vcov. = NeweyWest) #adjust for autocorrelation
```

t test of coefficients:

	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	157.4025622	40.0601538	3.9292	0.0001717	***
gas_prod	-4.6609955	2.1681472	-2.1498	0.0343824	*
rstor	-0.0579458	0.0085428	-6.7830	1.416e-09	***
after_may17	22.6612436	8.2462275	2.7481	0.0073030	**

In the light of the results of this reanalysis, we believe Concept's work indicates that electricity prices have risen since May 2017 for reasons which are not explained by the obvious fundamental drivers.

The Terms of Reference for the Concept were inappropriate and too narrowly focused

It appears, based on material released under the OIA, that the purpose of the Concept Report was that the Authority wanted to discredit the Matt Rowe article. The Authority had already formed the view, before the Concept Report was commissioned, that "the prices in spring 2017 ie several months after the May letter was issued were very normal for this time of year and this does not square with Matt's structural change hypothesis" and "the periods of water and gas supply risks were much more extended and extensive than Matt's article says and we should call him out on this more than we do".^{8,9}

Whether for this reason, or other reasons that aren't so apparent, the ToR, consequently, focussed narrowly on whether "trading conduct enforcement action by the Electricity Authority in May 2017 cause[d] a structural increase in electricity spot prices since May 2017", and "To what extent can changes in spot prices since May 2017 be explained by other factors, such as demand, fuel costs or hydrology" [emphasis added]. The narrow focus of the Concept Report meant that, at best, it served to defend the Authority from suggestions "the change in behaviour is a tit-for-tat from Meridian" or "An "up-you" response to its regulator".¹⁰

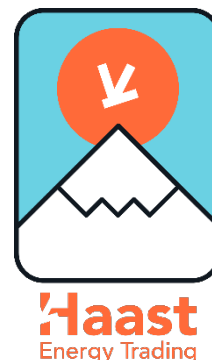
The inappropriate restrictions on the Concept Report are highlighted by the fact Concept identified off-peak offer volumes below \$100/MWh had declined from February 2017, for reasons not explained by gas price/hydro storage, but this result was dismissed on the grounds it could not have been caused by the May 2017 enforcement letter. While this may be true, it disregards the more pertinent questions of whether prices have structurally increased; and whether trading conduct has been inappropriate (as may be suggested by a decrease in offer volumes unrelated to the physical market). If there was a structural change it should have been neither here nor there whether this was from February or May 2017.

It is also noteworthy that our internal analyses indicate that offer volumes <\$100/MWh have decreased by 4% since May 2017 after controlling for gas price and hydro storage:

⁸ E-mail from Brent Layton to James Stevenson-Wallace Subject: Re: Media - Matt Rowe commentary piece on LinkedIn, 2 July 2019 5:02 PM.

⁹ See also: Q&A to guide the response to the Matt Rowe commentary piece, July 2019.

¹⁰ E-mail from Brent Layton to James Stevenson-Wallace Subject: Re: Media - Matt Rowe commentary piece on LinkedIn, 2 July 2019 5:02 PM.



Output of the regression model testing whether the volume of offers <\$100 decreased after May 2017. Note that the 'after_may17' coefficient is 0.96 after exponentiation. This is the source of the 4% reduction quoted in the text.

```
Call:
lm(formula = log(offers_lt_100) ~ storage_NZ_anom + gas_vwap_20days +
    after_may17, data = offers)
```

```
Residuals:
    Min       1Q   Median       3Q      Max
-0.239870 -0.051191 -0.004262  0.061411  0.208276
```

```
Coefficients:
            Estimate Std. Error t value Pr(>|t|)    |
(Intercept)  4.844e+00  4.624e-03 1047.555  <2e-16 ***
storage_NZ_anom  6.345e-05  4.559e-06  13.918  <2e-16 ***
gas_vwap_20days -8.052e-03  7.491e-04 -10.749  <2e-16 ***
after_may17    -3.983e-02  4.777e-03  -8.339  <2e-16 ***
```

Concluding remarks

Matt Rowe's article is a constructive and useful contribution to the debate about whether there are structural problems in the wholesale electricity market. The article demonstrated Matt Rowe's ability to think and contribute independently and his desire to seek analytically robust solutions to general market issues.

Concept has failed to demonstrate Matt Rowe's central hypothesis that there has been "a 'structural shift' in our pricing in the last couple of years" is incorrect. The findings of Concept's Report were contingent upon controlling for a variable which we believe should have been omitted (gas price). Our own analysis indicates wholesale electricity prices have increased for reasons other than gas price and hydrology.

After improving Concept's use of conventional statistical tests, we believe their analyses also support the view that prices have materially increased for reasons unrelated to the physical market.

All of the data used in this analysis is either publicly available or available from the NZX or EMS for a fee. We are happy to assist any interested parties who wish to recreate these results.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Phillip Anderson".

Phillip Anderson
Managing Director
Haast Energy Trading
phill@haastenergy.com
+64 21 460 040



11 February 2020

Tony Baldwin
Chair
MDAG
Electricity Authority

By email: tony@tonybaldwin.co.nz

Rebuttle of Concept's report "Review of impact of trading conduct enforcement action on spot prices – addendum"

Haast Energy Trading Limit (Haast) welcomes that a review has been undertaken of our report "Critique of Concept's report "Review of impact of trading conduct enforcement action on spot prices"".

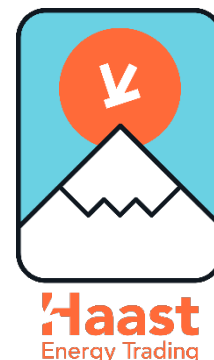
The limited timeframe to respond to the Concept Consulting's report "Review of impact of trading conduct enforcement action on spot prices – addendum" (the Concept Addendum) has meant we have been unable to review the new analyses Concept presented in the sections "Gas prices seem to drive thermal generation rather than vice versa" and "What if gas prices are completely excluded". If the Electricity Authority or MDAG would like Haast to undertake a full review we will need more time, otherwise we can provide feedback at the formal consultation stage.

We have not changed our views and conclusions about the Concept report, after reviewing the Concept Addendum. We remain of the view that, once corrected for modelling issues, the Concept Report (and Concept Addendum) does not support the hypothesis that there has been no structural shift from May 2017. Haast considers that while Concept has been fairly diligent in providing responses to all the points we raised in our critique of Concept's report, many of the responses are weak and/or misleading.

As an example, one of Concept's key arguments for why our significant Granger test demonstrating gas price drives electricity price can be ignored is that their monthly data found no evidence of Granger causality (our test was based on daily data). More importantly, since Concept's original analysis was also at the monthly level, they argue their Granger test is more relevant than ours. This is misleading. The use of a monthly Granger test means Concept has tested whether gas prices from a month ago help predict today's electricity prices; whereas their original monthly structural analysis tested whether concurrent gas and electricity prices are related, but where data has only been recorded once per month. The two monthly datasets Concept has used compare 'apples and oranges'. The daily Granger test is no less relevant to the question of whether gas price drives electricity price and, therefore, whether gas price should be removed from the monthly structural analysis than the monthly Granger test.

Before responding to Concept's critique, it is useful to reiterate why Haast considers it important to omit gas price from Concept's structural break model i.e., the model Concept used to conclude that electricity prices have not structurally increased since May 2017. The statistical effect of including any variable which is affected by electricity price is that it makes it 'too easy' to conclude there has been no structural break.¹ This in turn means we can't determine whether a *detected* structural break reflects a *true* structural break or the inclusion of the inappropriate variable.

¹ Statistically, this is because variation in electricity price which may be caused by a structural break is instead inappropriately explained by variation in (e.g.) gas price.



We do not agree with Concept's view that our analyses are insufficient to demonstrate that electricity price affects gas price

Concept disputes that our analyses demonstrate electricity price affects gas price.² We understand this is on the grounds that Concept considers Granger tests are not sufficient in of themselves to demonstrate causality. Instead, Concept suggests a real-world understanding of the system at hand is required.

We agree with this approach for understanding/testing causality, and emphasise our conclusion that gas price is affected by electricity price is not based solely on the output of the Granger tests as detailed in footnote 6 of our critique:

"We have not explored the reasons for this relationship in detail, but from a high level we think it is fairly intuitive that the NZ gas and electricity markets are heavily interconnected and a significant amount of the time gas fired power stations are the marginal price setter in both markets."

Our conclusion stems from an understanding of fundamental market structure that suggests a significant amount of the time gas fired generators are marginal in both markets,³ and the fact our Granger tests support this fundamental understanding.

We disagree that Concept's monthly analyses of whether electricity price causes gas price is superior to our daily analysis, or that it is inappropriate to use a daily Granger test to inform whether gas price should be removed from a monthly dataset

Concept claims that because the structural break model was applied to monthly data, it is necessary/appropriate to test for Granger causality on a monthly dataset. We disagree with this for several reasons:

- Concept's monthly analysis is clearly not sufficiently powerful to test whether electricity price affects gas price. This is evidenced by the fact that, unlike the daily Granger tests, the monthly analyses fail to demonstrate electricity price is caused by hydro storage – despite being widely recognised as a key driver of electricity price. This suggests the monthly data is not appropriate for testing whether electricity price Granger-causes gas price.
- We believe the most likely explanation for the poor performance of the monthly tests is the relatively small sample size. We disagree with Concept's claim that the 90 data points used in the monthly test is "far in excess of the sample size required to perform a regression with two independent variables". The sample size required for a given analysis varies widely depending on, amongst other things, the volatility of the relationship under assessment. We note electricity and gas markets are exceptionally volatile and, as discussed above, the monthly dataset was incapable of detecting a known cause-and-effect relationship.
- Concept claims it is not appropriate to reject the monthly structural break analysis based on a Granger test applied to daily data. We disagree. If today's gas price is affected by yesterday's electricity price (as demonstrated by the daily test), it seems reasonable to assume the monthly average gas price is also

² We refer to our analyses based on daily rather than monthly data.

³ We acknowledge that Concept have presented new analyses indicating that gas generation is generally negatively correlated with gas price. While a full analysis of these analyses is beyond the scope of this document, we note that such an overall negative correlation does not preclude electricity price or gas demand from positively influencing gas price.

affected by the monthly average electricity price (the essence of the data used in the structural break analysis). If so, gas price should not be included in the structural break analysis.



Haast
Energy Trading

The monthly data are clearly insufficient for the purpose of demonstrating Granger causality, whereas the daily data are both sufficient and appropriate.

We disagree that the use of uncorrected data in our Granger tests lead to a result which was not statistically sound

Concept asserts our Granger tests were not statistically sound on the grounds that the raw data were not stationary (a requirement of the Granger tests). We agree that input data should be stationary, but contend this was already the case (as assessed using augmented Dickey Fuller tests). The appropriateness of our testing procedure is further supported by the fact Concept's results after undertaking a procedure to improve stationarity were not materially different from Haast's.

We disagree that it would be inconsistent to include hydro storage in the structural break model if gas price is omitted

Concept's analyses indicates electricity price Granger-causes hydro storage. Based on this, Concept suggests it would be consistent to remove hydro storage from the structural break model in the same way that gas price was removed.

We do not believe it is inconsistent to include hydro storage in the structural break model for two reasons:

- Our own analyses found no evidence that electricity price Granger-causes hydro storage,⁴ and
- The reason for removing gas price was not simply that it was Granger-caused by electricity price, but rather it seemed logical to expect electricity price to materially affect gas price *and* a Granger test supported this hypothesis. In our opinion, it is less plausible to assume storage is materially affected by electricity price. Our understanding of the market fundamentals suggests the increased use of stored water when prices are high is small compared to the volatility of weather driven hydro inflows and therefore hydro storage is not materially caused by electricity prices.

Concluding remarks

We stand by the conclusions from our original critique of Concept's modelling.⁵

We believe there are sufficient grounds to conclude electricity price affects gas price; and for this reason gas price should not be included in the modelling. More importantly, because removal of gas price (or replacement with gas production) from the structural break model results in a significant increase in price since May 2017, we believe Concept's work does not support their conclusion that electricity prices have not structurally increased since this time.

We note we have not received a reply from MDAG or the Authority regarding why the scope of the report was limited to only focus on a May 2017 break point, or why the report did not investigate whether prices have structurally increased over recent years. We continue to believe a fulsome investigation of this

⁴ We are more than happy to share our analyses and/or help others replicate them.

⁵ We refer to 'Critique of Concept's report "Review of impact of trading conduct enforcement action on spot prices"'.



question will show prices have materially increased for reasons other than hydrology and fuel prices, and that the most likely explanation for this change lies in bidding behaviour and trading conduct.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Phillip Anderson', written in a cursive style.

Phillip Anderson
Managing Director
Haast Energy Trading
phill@haastenergy.com
+64 21 460 040



13 May 2011

Carl Hansen
Chief Executive
Electricity Authority
Level 7, 2 Hunter Street
Wellington

By email: submissions@ea.govt.nz

Dear Carl

Draft Decision regarding alleged UTS on 26 March 2011

1. Meridian commends the Authority on its thorough and timely investigation and agrees with the finding that the 26 March 2011 situation constituted a UTS. Meridian considers that this decision will restore confidence in the electricity market.
2. In Meridian's view:
 - (a) as a result of a transmission outage, Genesis was effectively in a position to set the prices north of the constraint at whatever level it offered;
 - (b) Genesis' offer strategy was deliberate in that it was intended to result in prices in the range of \$19,000/MWh to \$20,000/MWh;
 - (c) Genesis' offer prices were so far outside the bounds of efficiency and the public interest (in a situation where there was no shortage of energy or capacity) as to threaten the integrity of, and confidence in, the wholesale market;
 - (d) furthermore, if unremedied, such prices could well become common in similar situations (as illustrated by the conduct of Contact on 2 April 2011);
 - (e) accordingly, the test for a UTS is satisfied; and
 - (f) final prices should be based on what they would have been in normal trading conditions and should approximate SRMC not LRMC.
3. While Meridian agrees with the overall findings and reasoning of the Authority, there are three matters which Meridian believes should be amended in the final decision:
 - (a) the Authority should clarify that concepts such as "net pivotal", "cornering" and "squeezing" are not a necessary part of or a substitute for the application of the UTS test in the Code. That could lead to technical arguments about intention, notice, and the interpretation of net pivotal which are not directly relevant to

determining whether or not a UTS has occurred (that is, it is enough that Genesis was in a position to set the price at whatever level it offered);

- (b) in particular, parts of the draft decision seem to imply that a UTS would not have arisen if Genesis had put participants and end users on sufficient notice -- Meridian would still consider 26 March to have been a UTS if Genesis had given a week, a month or two years' notice; and
 - (c) in terms of resetting the prices, as there was no energy or capacity shortage, the use of "value of lost load" or "long run marginal cost" pricing is unnecessarily punitive to customers and prices should be reset to match what they would have been under normal trading at the relevant nodes.
4. Essentially Meridian is concerned that the Authority should not, in the context of a UTS investigation, attempt to either:
- (a) prescriptively describe the boundary between acceptable and unacceptable offers: it is enough to state that the 26 March situation was clearly across the line; or
 - (b) set prices at what the Authority considers is the "right" level.
5. In a practical sense, unless the amendments outlined above are made to the draft decision, it could be read as inviting participants to:
- (a) put the market on notice that they may charge high, very high or excessive prices whenever they enjoy market power; and
 - (b) regardless of (a), exercise transient market power when it exists by offering in at (say) a \$20,000/MWh level, knowing that the only adverse consequence is that the Authority will find, and set prices at, the highest acceptable level.
6. Meridian's proposed changes to the draft decision are intended to limit the risk of the Authority appearing to endorse behaviours that would threaten confidence in the wholesale market.
7. Meridian would also support the Authority prioritising a consultation process on whether Code amendments are required to provide further standards as to acceptable participant behaviour during times of transient market power.

1. Has the Authority accurately recorded and interpreted all of the salient facts in regard to this matter? If not, please detail the inaccuracies.

8. Meridian broadly agrees with the findings of the Authority. In its view, the key facts are that:
- (a) there was no energy or capacity shortage at the time;
 - (b) as a result of a transmission outage, Genesis was effectively in a position where it could unilaterally set prices north of the transmission constraint;
 - (c) Genesis was aware that its offer strategy would, or could well, result in prices in the range of \$19,000/MWh to \$20,000/MWh;

- (d) such prices are far in excess efficient bounds and the public interest in the context where a transmission outage created transient market power and a lack of competition in the market; and
 - (e) Genesis adjusted its offers during the outage to follow load profile so high tranches continued to clear.
9. Meridian is not in a position to comment on the motivations behind Genesis' offer strategy at Tokaanu nor Contact's withdrawal of generation capacity at Stratford on 25 March.

2. 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.

10. Meridian agrees that the situation threatened trading on the wholesale market and, if left unremedied, was likely to preclude the maintenance of orderly trading and the proper settlement of trades. Meridian also agrees that the situation cannot satisfactorily be resolved by any other mechanism available under the Code.
11. The Authority places particular emphasis on the facts that:
- (a) Participants will lose confidence in the integrity of the market if prices are divorced from efficient supply-demand conditions and excessively higher than underlying costs. This could result in both inefficient investment signals and inefficient consumption by individual consumers, as well as reducing the potential level of demand-side management through deterring demand-side participation in the wholesale market.
 - (b) Unless the high interim prices resulting from the squeeze are remedied, the reputation of the market may be damaged to the point where trading is threatened and the adverse financial impact on some parties may preclude the orderly trading and the proper settlement of trades.
12. Meridian agrees with these reasons. As explained by Professor Evans, the UTS rules can be thought of as efficiently filling unavoidable gaps in the Code. That is, by addressing behaviour not codified precisely, a UTS reduces the need for such codes, and enables independent participant decision-making that promotes a workably competitive market in electricity. Unless situations such as occurred on 26 March are remedied through the declaration of a UTS, incentives are created for all participants to take advantage of transient market power, resulting in a reduction of the dynamic efficiency and wider credibility of the New Zealand electricity market.
13. In terms of the legal framework adopted in the draft decision, Meridian:
- (a) agrees broadly with the Authority's approach;
 - (b) agrees that the threshold of an 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" has been met in this case; and
 - (c) notes that a broad approach (and one that looks at the future consequences which may result if particular market behaviour is not remedied) is appropriate having regard to:
 - (i) the Authority's statutory objective and the purpose of the market;

- (ii) the need for a "gap filler" to protect the integrity of the market; and
 - (iii) the range of situations described in paragraph (c) of the definition of a UTS and which colour the interpretation of paragraph (a).
14. Where Meridian considers that the draft decision should be revised is where the Authority attempts to describe the boundary between acceptable and unacceptable offers. In particular, the decision could imply that if a generator gives adequate notice of the intention to offer at high prices, there can be no UTS.
15. In Meridian's view such an approach is not appropriate as it would encourage generators to make generic statements that they intend to offer at (say) \$19,000/MWh whenever they are net pivotal. This would either lead to exposed parties seeking hedges that would logically be priced at the same \$19,000/MWh level whenever the opportunity arose or spot prices that would threaten confidence in the integrity of the market. That is, it would appear to permit offer behaviour which would give rise to the very same concerns outlined above.
16. Rather, and consistent with the nature of the UTS regime as a "gap filler", in Meridian's view the Authority should not seek to give participants detailed guidance about the circumstances in which prices far in excess of marginal generation costs can be achieved without fear of consequence. The final decision should just focus on the facts before the Authority, and the reasons those facts constitute a UTS. Any further guidance should be provided through amendments to the Code and following consultation.

3. Do you agree with the draft remedial actions that the Authority intends to take to correct the UTS? Please give reasons for your answer.

17. Meridian agrees that the remedial action should focus on setting appropriate final prices for trading periods 22 to 35 inclusive on 26 March 2011.
18. However, Meridian's view is that the Authority's proposed methodology for setting final prices - which essentially involves capping the offer prices of net pivotal generators somewhere between estimates of the LRMC of new entry generation and the cost of demand-side response - is undesirable, for the following reasons:
- (a) The proposed reset prices are still high by any normal measure. As such, the methodology does not address the concerns raised by the Authority and summarised at paragraph 11 above. That is, under the proposed methodology, participants are still likely to lose confidence in the integrity of the market and suffer financial consequences as a result of price squeezes, and the reputation of the market is still likely to be damaged.
 - (b) Furthermore, the reasons for adopting this methodology are not convincing:
 - (i) the Authority can simply declare that Genesis' offer prices were unacceptable, without attempting to define what might have been acceptable;
 - (ii) in the absence of any shortage of energy or capacity, there is no basis for using estimates of the LRMC of new entry generation and the cost of demand-side response, rather the "right" price would be SRMC or something closer to it;

- (iii) in the context of a transmission outage, the prices proposed by the Authority are still punitive to those exposed to them;
 - (iv) while such prices might encourage hedging this is not the purpose of the UTS process, and hedge prices that reflect the exercise of market power by marginal generators in circumstances such as 26 March would be neither efficient nor in the public interest; and
 - (v) the Authority should be concerned to ensure that prices are reset at a level which does not reward or encourage similar behaviour in the future.
- (c) The methodology could be seen as legitimising super-normal prices and is likely to lead to inefficient behaviour by net pivotal generators. That is, once the Authority determines the price cap to apply in its final decision, net pivotal generators will be able to offer in at that level without fear of consequences. Generators could even choose to continue to offer in at \$19-20,000/MWh, knowing that that they may be able to obtain hedges at (or around) this level and that, at worst, their offers may be moderated downwards. None of this behaviour would be consistent with dynamic efficiency or the maintenance of orderly trading.
- (d) In any case, it is artificial to focus on LRMC of new entry generation and the cost of demand-side response when, under the Authority's analysis, the high spot prices experienced were a result of a combination of factors, none of which were (at least until the morning of 26 March) under the control of any one person. In the absence of an energy or capacity shortage, competitive prices should approximate SRMC not LRMC.
- (e) Some may see the methodology as amounting to the introduction of a transient market power mitigation regime. In Meridian's view, such complex issues should be dealt with through detailed analysis and a considered consultation process, rather than in the context of a UTS investigation. As noted in our letter of 5 April 2011, there are a range of potential regime designs, including whether the regime is universal or situation specific regimes (eg limited to localised market power during transmission outages), principle-based or formulaic, or operates ex ante or ex post. There is a wealth of overseas experience to draw on, and examples include good faith requirements, rules against physical and economic withholding, offer price caps, and cumulative price caps. Mechanisms such as directed/vesting contracts for base load and day ahead markets can also mitigate market power issues. If the draft decision is implemented as contemplated, the process for finding which of these candidates (if any) would be best for the New Zealand market may well be short-circuited.
19. In Meridian's view, in its final decision the Authority should recognise that, while there has been abuse of transient market power in this case, the UTS regime is not well suited to a policy debate about the extent to which net pivotal generators should or should not be able to price at their whim. Rather, a pragmatic approach is necessary which:
- (a) recognises that there is a need for a consultation process to consider whether a specific Code amendment in relation to the mitigation of transient market power is necessary; and
 - (b) pending that consultation, and given events on the day, normalises prices for the relevant period in a straightforward way, for example by recalculating final prices assuming that Huntly was offered at its short run marginal cost of generation, as measured by offer prices for the Huntly units during the period

immediately prior to the transmission outage or alternately a short term average.

4. 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.

20. Please see our response to question 3.

21. If you have any questions regarding this submission please contact either myself or Gillian Blythe (gillian.blythe@meridianenergy.co.nz, mobile 021 388 469).

Yours sincerely



Neal Barclay
General Manager, Markets and Production

DDI 04 381 7226
Fax 04 381 1201
Mobile 027 2301 904
Email neal.barclay@meridianenergy.co.nz



29 April 2011

Carl Hansen
Chief Executive
Electricity Authority
Level 7, 2 Hunter Street
ASB Tower
Wellington

By email: carl.hansen@ea.govt.nz

Dear Carl

Implications of 26 March 2011 event for dynamic efficiency in the NZEM

Meridian asked Professor Lew Evans to consider the implications of the 26 March 2011 price spike for the dynamic efficiency of the New Zealand electricity market (NZEM) (see attached memorandum).

Lew is a professor of economics in the School of Economics and Finance at Victoria University of Wellington (VUW), where he lectures in industrial organization, financial economics, and law and economics. Lew is a lay member of the New Zealand High Court for matters of commerce and was a member of the Electricity Market Surveillance Committee for the period of its existence (1996-2004). He has 20 years of experience in consulting in a wide range of industries and in decision-making positions in regulatory institutions.

Meridian would like to draw your attention to his conclusions:

- ...the nature of this event is such that, if it is admitted under the Code, the changes in Participant behaviour that it has induced will continue, and will reduce the dynamic efficiency of the New Zealand electricity market.
- ...the UTS rules can be thought of as efficiently filling unavoidable gaps in the Code. That is, by addressing behaviour not codified precisely, a UTS reduces the need for such codes, and enables independent Participant decision-making that promotes a workably competitive market in electricity.
- ...the Genesis event will continue to spawn Participant actions rendering a reduction in competitiveness, and wider credibility, of the New Zealand electricity market; unless it produces a UTS.

As Meridian has said previously, our main concern is not with who made or lost money on 26 March 2011 but with market viability if the Authority condones participants with transient market power making offers at any level they chose. Lew's memorandum heightens these concerns.

If you would like to discuss this memorandum please do not hesitate to contact me.

Kind regards



Gillian Blythe
Senior Regulatory Advisor

DDI 04 382 7550

Fax 04 381 1201

Mobile 021 388 469

Email gillian.blythe@meridianenergy.co.nz

Attachment:

Memorandum prepared by Professor Evans

Brief biography for Professor Evans

Lewis Evans, M.Agr.Sc. (Hons.I) Linc, PhD Wisconsin

Dr. Evans is a professor of economics in the School of Economics and Finance at Victoria University of Wellington (VUW), where he lectures in industrial organization, financial economics, and law and economics. He has 20 years of experience in consulting in a wide range of industries and in decision-making positions in regulatory institutions.

He was the inaugural executive director of the New Zealand Institute for the Study of Competition and Regulation (ISCR), an externally funded research unit of VUW. He is a lay member of the New Zealand High Court for matters of commerce and was a member of the Electricity Market Surveillance Committee for the period of its existence (1996-2004). In 1996, he was awarded the NZIER-Qantas economics award, in 2005 was awarded the position of Distinguished Fellow of the New Zealand Economics Association, and in 2009 was made a Fellow of the Law and Economics Association of New Zealand. He has published more than 40 refereed articles in leading international and local economics journals and has another 50 publications. He is a former member of the editorial board of The Journal of Economic Literature.

Dr. Evans has consulted for a wide range of companies and governmental organisations, including the Asian Development Bank and the RAND Corporation, a private public policy institution in Los Angeles.



meridian

19 May 2011

Carl Hansen
Chief Executive
Electricity Authority
Level 7, 2 Hunter Street
Wellington

By email: submissions@ea.govt.nz

Dear Carl

Draft Decision regarding alleged UTS on 26 March 2011 – Cross Submission

1. Meridian welcomes the opportunity to cross-submit on the other party submissions in relation to the Authority's draft decision dated 6 May 2011. Meridian's cross submission comprises this letter and the accompanying memorandum prepared by Professor Lew Evans.
2. In Meridian's view:
 - (a) The cross-submissions highlight the fact that, unless a UTS is confirmed in this case, it will be a case of "anything goes" - that is, taking advantage of transient market power to set arbitrarily high prices will become an established feature of the electricity market.
 - (b) Under an "anything goes" regime, generators would face a completely different set of incentives from those they have previously assumed. It is difficult to predict exactly what the future would hold, but it can safely be assumed that, because being net pivotal would attract economic rents, generators would actively seek that position. That is, being long on generation and earning hedge revenues based on the threat of \$20,000/MWh prices (or \$100,000/MWh prices) would likely be much more profitable than being a balanced gentailer facing competitive retail markets. As a result, net pivotal situations and exercise of market power would be likely to be much more frequent - the past would not be a good guide to the future.
 - (c) In those circumstances, trading on the wholesale market will be threatened, and orderly trading and proper settlement are likely to be precluded, unless a UTS is confirmed. As set out in our earlier submission and Professor Evans' report:
 - (i) Participants will lose confidence in the integrity of the market if prices are divorced from efficient supply-demand conditions and excessively higher than underlying costs. This could result in both inefficient investment signals and inefficient consumption by individual consumers, as well as reducing the potential level of demand-side

management through deterring demand-side participation in the wholesale market.

- (ii) Unless the interim prices are remedied, the reputation of the market may be damaged to the point where trading is threatened and the adverse financial impact on some parties may preclude the orderly trading and the proper settlement of trades.
 - (iii) Unless situations such as occurred on 26 March are remedied through the declaration of a UTS, incentives are created for all participants to take advantage of transient market power, resulting in a reduction of the dynamic efficiency and wider credibility of the New Zealand electricity market.
- (d) The issue for the Authority is therefore whether, in the absence of a transient market power mitigation regime in the Code¹:
- (i) "anything goes" is an acceptable outcome, or
 - (ii) the UTS regime can act as a "gap filler"
- in circumstances where there is no energy or capacity shortage and a net pivotal generator takes advantage of its market power situation without any view to the public interest. Most if not all wholesale electricity markets have mechanisms to moderate the potential illegitimate exercise of market power when a participant could otherwise name its price. However, at the moment the only mechanism available to the Authority is the UTS.
- (e) It is inaccurate to suggest that 26 March was a "normal" outcome where supply and demand were balanced in accordance with market forces. The prices on 26 March did not equilibrate supply and demand in any meaningful sense - rather, they were effectively set by Genesis at unprecedented levels.
 - (f) It is also no answer to the above to say that high, very high or excessive prices are a necessary part of an efficient spot market because they signal the need for investment and allow generators to recover fixed costs. While prices above SMRC are necessary for the recovery of fixed costs, there is no reason to think that such prices *caused by the taking advantage of transient market power* are necessary to ensure efficient investment or recovery of costs.
 - (g) Similarly, it is no answer to say that the risk of high spot prices can be managed in the hedge market. When high prices result from market power, hedge prices will also reflect market power - the same rents are extracted, but in a different way. This is illustrated by the events of 2 April (and now 14 May).
 - (h) It is misleading to suggest that there will be no cost implications to retail customers under an "anything goes" regime. If economic rents are being extracted by generators, these will ultimately be passed on to consumers.
 - (i) Finally, Meridian agrees with Genesis and other submitters that a price cap is not an appropriate remedy in this case. Rather, and as outlined in our submission, the remedy in this case should be a normalisation of prices, not an investigation into LRMC/cost of demand response that would result in unnecessarily punitive prices for consumers. The issue of whether price caps

¹ See comments in paragraph 8(e) of Meridian's 13 May 2011 submission regarding the range of possible regime designs.

or other mitigation measures are appropriate should be left to a Code amendment process.

3. The remainder of this submission:
 - (a) comments on the legal framework proposed in the Genesis submission;
 - (b) reviews the justifications advanced by Genesis for its conduct;
 - (c) explores the likely consequences if a UTS is not confirmed in this case; and
 - (d) responds to other submissions in terms of the Authority's proposed remedy.

Legal framework

4. In order to correctly frame the remainder of this submission, we first briefly comment on the legal framework in relation to the finding of a UTS.
5. Clause 5.2(1) of the Code provides that "[i]f the Authority finds that an undesirable trading situation is developing or has developed", the Authority may take any of the steps listed in clause 5.2(2) that it considers necessary to correct the UTS. "Undesirable trading situation" is defined in Part 1 of the Code as any contingency or event:
 - (a) 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; and
 - (b) that, in the reasonable opinion of the Authority, cannot satisfactorily be resolved by any other mechanism available under this Code; and
 - (c) includes, without limitation,—
 - (i) manipulative or attempted manipulative trading activity; and
 - (ii) conduct in relation to trading that is misleading or deceptive, or likely to mislead or deceive; and
 - (iii) unwarranted speculation or an undesirable practice; and
 - (iv) material breach of any law; and
 - (v) any exceptional or unforeseen circumstance that is at variance with, or that threatens or may threaten, generally accepted principles of trading or the public interest

6. Meridian notes that:
 - (a) Clause 5.2 is phrased subjectively rather than objectively - if the Authority "finds" that a UTS has developed, it may take any of the steps listed in clause 5.2(2) "that it considers necessary" to correct the UTS. That is, similar to the position with other expert regulatory bodies, it is the Authority's role as decision-maker to weigh the relevant evidence and make the appropriate finding.
 - (b) The definition has a strong prospective element: an event can be a UTS if it "may" threaten trading and "would be likely to" preclude orderly trading or proper settlement.

- (c) The Authority has approached the matter on the basis that both paragraphs (a) and (b) must be made out before a UTS is found (see [15] of the draft decision). This may too conservative a view: in particular, paragraph (c) of the definition of UTS appears to contemplate that some conduct may be deemed to be a UTS even though it may not otherwise fall within paragraph (a). However, on any view, paragraph (c) colours the interpretation of paragraph (a): that is, paragraph (c) lists a number of matters likely to result in trading in the wholesale market being threatened and orderly trading and proper settlement being precluded, and therefore acts as a guide to the proper interpretation of paragraph (a).

7. It follows that:

- (a) Statements such as:
 - (i) "the test for a UTS establishes a very high legal threshold" (Genesis, [19]);
 - (ii) "[p]roperly 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" (Genesis, [20]); and
 - (iii) the UTS powers "are only to be used in extraordinary circumstances" (Genesis, [22]),

are not supported by the relevant provisions of the Code. Rather, the Authority has a broad discretion, subject to it being satisfied of the relevant factual matters.

- (b) Similarly, it is incorrect to suggest that the UTS provisions cannot be used with an eye to the future (Genesis, [9-10, 92-98]). The definition of UTS clearly contemplates nipping potential problems in the bud. There is no necessary bright line between what may properly be the subject of a UTS decision and what may properly be the subject of a Code amendment process (compare Genesis [22-25]) - rather, the EIA and the Code provide the Authority with a basket of remedies when an undesirable trading situation arises, to be employed in accordance with the EIA and the Code as the Authority sees fit.
- (c) If any of the subparagraphs of paragraph (c) apply, that is a guide to whether paragraph (a) of the definition is made out. Here, the relevant subparagraphs include asking whether Genesis's offer behaviour:
 - (i) constitutes an undesirable practice; or
 - (ii) is an exceptional or unforeseen circumstance that is at variance with, or that threatens or may threaten, generally accepted principles of trading or the public interest.

Consistent with the above, it is for the Authority to reach a conclusion on the relevant factual matters.

Relevance of effect on end users

- 8. In its submission, Genesis suggests that the effects on end users who do not directly participate in the wholesale market cannot be taken into account in deciding whether a UTS has occurred (Genesis, [35-38]).

9. In Meridian's view, this is an artificial approach. While it is true that the UTS definition centres on the effects on the wholesale market, the actions of end-users who are exposed to spot prices is an important facet of the wholesale market (hence the various initiatives to promote demand side participation). To the extent that the Authority is satisfied that that is the case, the effects on end users may properly be taken into account. This is also consistent with the Authority's statutory objective to "promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers" (EIA 2010 s 15, emphasis added).

High prices and "entirely legitimate" activity cannot constitute a UTS

10. It is also inaccurate to suggest that, because the Electricity Commission has previously found that *some* instances of high prices do not amount to a UTS, it follows that *this* instance cannot be a UTS (Genesis, [29]). Rather, each case must be approached on its merits, having regard to the words and context of clause 5.2 and the UTS definition and the overall statutory purpose. Previous UTS findings cannot fetter the Authority's discretion - particularly where, as here, none of those findings are on all fours with the current case, in that none involved taking advantage of transient market power by a net pivotal generator to this extent in circumstances where there was no energy or capacity shortage.
11. It is worthwhile at this point to make the point that the events of 26 March did not just result in "high prices" - they resulted in *unprecedented* prices. To illustrate:
- (a) Vodafone calculated that the cost of the seven-hour price spike exceeded 8% of its historical annual electricity expenditure - i.e. it spent more in 7 hours than it typically would in a month (Vodafone, UTS claim).
 - (b) PMP Print submitted that over the price spike it paid 693 times what it would expect to pay for electricity in a normal competitive market situation (PMP Print, UTS claim).
 - (c) Assuming the interim prices stand, the events of 26 March significantly changed the March, and even the Q1, average price at the OTA node. Replacing the 26 March interim prices with the final prices for the previous Saturday results in a drop in the average March price from \$261.87 to \$62.23/MWh, and a drop in the Q1 price from \$121.86 to \$53.10/MWh. Another way of looking at these figures is to note that, for a buyer of a flat load over Q1, electricity provided on 26 March would have represented 57% of their bill for the entire quarter.
 - (d) There was a significant drop in futures market prices when the Authority's draft decision declaring a UTS was released (see paragraph 26 below).
12. In Meridian's view, these prices were not just high, but were an abuse of market power. While Meridian accepts that the dividing line between acceptable and unacceptable offers when a party is in a position of transient market power will not always be easy to draw, in this case that line was well and truly crossed.
13. Likewise, the submission that the Code does not regulate offer levels, and that "entirely legitimate" market activity cannot be a UTS (Genesis, [6, 100]), is based on a misinterpretation of the UTS definition. If conduct that does not breach the Code cannot be a UTS, then the definition would be of no practical use, particularly in light of paragraph (b) of the UTS definition.

Overall result

14. The overall decision for the Authority is thus whether, in the absence of a transient market power mitigation regime in the Code, "anything goes" is an acceptable outcome in these circumstances, or whether, as described by Professor Evans, the UTS regime can act as a "gap filler" in circumstances where there is no energy or capacity shortage and a net pivotal generator excessively exercises its market power. Most if not all wholesale electricity markets have mechanisms to moderate the potential exercise of market power when a participant could otherwise name its price. However, at the moment the only mechanism available to the Authority is the UTS.
15. In Meridian's view, in light of the above the Authority can and should find a UTS has occurred given that:
- (a) transient market power has been used in an extreme manner by a net pivotal generator in circumstances where there was no energy or capacity shortage;
 - (b) in the absence of a UTS, participants are likely to lose confidence in the integrity of the market because prices are divorced from efficient supply-demand conditions and excessively higher than underlying costs. This could result in both inefficient investment signals and inefficient consumption by individual consumers, as well as reducing the potential level of demand-side management through deterring demand-side participation in the wholesale market;
 - (c) unless the interim prices are remedied, the reputation of the market may be damaged to the point where trading is threatened and the adverse financial impact on some parties may preclude the orderly trading and the proper settlement of trades;
 - (d) unless a UTS is declared, rent-seeking incentives are created for all participants to take advantage of transient market power, resulting in a reduction of the dynamic efficiency and wider credibility of the New Zealand electricity market; and
 - (e) implicitly sanctioning this kind of behaviour will ultimately lead to higher prices for consumers, because participants will have no choice but to pass on the economic rents collected by net pivotal generators.

Analysis of Genesis's submission

16. Aside from the legal arguments set out above, Genesis's principal submissions as to why there is no UTS are that:
- (a) contrary to the draft decision, there was no "price squeeze" ([49-51]);
 - (b) prices on 26 March just reflected the normal operation of supply and demand ([71-72]);
 - (c) price spikes are an essential feature of an efficient spot market and signal the need for investment as well as allowing generators to recover fixed costs ([29]);
 - (d) market participants should have been aware of the risk of higher prices and should have hedged accordingly ([65-67]); and
 - (e) finding a UTS in these circumstances rewards poor risk management, and would have a range of undesirable consequences including risking creating a

moral hazard whereby those exposed to the spot market socialise their losses while retaining their profits.

17. Meridian comments on these submissions as follows:

(a) *Price squeeze*

As we have previously submitted, the concept of a price squeeze is not a necessary part of or a substitute for the application of the UTS test in the Code. The technical requirements of a price squeeze are not relevant in this case.

(b) *Normal operation*

Although the prices of 26 March resulted in a technical sense from the interaction of supply and demand, in an economic sense they resulted from a situation where a participant could name its price and (as set out in paragraph 11) choose to offer at an unprecedented level. It is this exercise of transient market power that lies at the heart of the reason 26 March was a UTS.

(c) *Price spikes an essential feature*

The issue in this case is not whether price spikes are an essential feature of an efficient spot market, but whether price spikes caused by the exercise of transient market power with no view to the public interest, integrity and reputation of the wholesale electricity market are necessary to ensure efficient investment or recovery of costs. As discussed above, this was not a "normal" price spike as might result (for example) from natural risks such as weather events or fuel availability, but was rather the result of extreme use of transient market power.

It is odd to suggest that generators with transient market power should have unconstrained ability to take advantage of that power, or that the resulting price outcomes are an essential feature of an efficient spot market.² Rather than signalling the need for investment, as set out by Professor Evans such outcomes are likely to result in a loss of dynamic efficiency. That is, there is no reason to think that high prices caused by the illegitimate exercise of transient market power are necessary to ensure efficient investment or recovery of costs. Investment has occurred in New Zealand in the past without the need for any such illegitimate exercise of market power, and many overseas countries have market power mitigation regimes.

(d) *Buyers should have hedged*

Meridian disagrees that market participants should have been aware of the risk of higher prices. Based on the information observable at the time, until it was too late there appeared to be little more occurring than adjustments to offers that may or may not have constituted real intent. That is, Genesis did nothing other than submit its offers and remain quiet. Although the events of 26 March are obvious to all with the benefit of hindsight, and (as Meridian has previously submitted) advance warning is not relevant in any case, it is worth pointing out that market participants had no reason to believe that Genesis was about to take advantage of its market power in the unprecedented manner that it did. For example, Contact's actions in withdrawing Stratford presumably show that it cannot have thought that prices were going to be as high.

² We note that offers at \$20,000/MWh extended to e3p as well as Huntly units 1-4.

Meridian also rejects Genesis's suggestion that it is imprudent for end-users to have spot market exposure and that such customers are somehow at fault for electing supply that is priced in this way. The reality is that customers have a right to choose the products that best fit their business model. All customers can possibly be blamed for expecting spot market participants to act reasonably and not abuse any transient market power they may have.

In any case, it is no answer to say that the risk of high spot prices can be managed in the hedge market when those high prices are a result of transient market power. When high prices result from market power, hedge prices will also reflect market power - the same rents are extracted, but in a different way. This is illustrated by:

- (i) the hedge prices offered by Genesis to Meridian mid-afternoon on 26 March (\$10,000/MWh) - noting that both Genesis and Contact had earlier refused to offer Meridian hedges at all; and
- (ii) the events of 2 April (and now 14 May), which show that Genesis has been collecting rents by offering hedge cover, allowing it potentially to lock in premium prices on 100% of its Huntly capacity (in place of achieving a higher spot price but on a smaller portion of its capacity).

That is, it makes little sense to suggest that it is prudent, efficient or reasonable practice to hedge with the party that could and in this instance did set excessive prices.

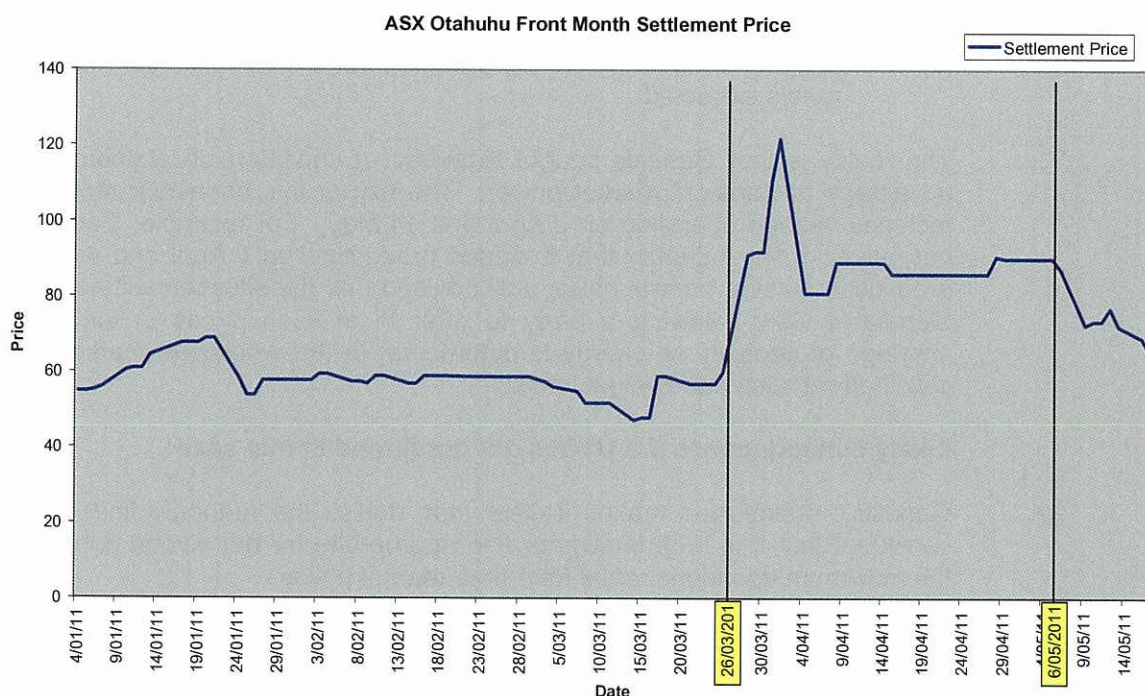
18. In terms of the final submission, Genesis asserts that finding a UTS in these circumstances:
 - (a) rewards poor risk management and reduces incentives to hedge;
 - (b) risks creating a moral hazard whereby those exposed to the spot market socialise their losses while retaining their profits;
 - (c) creates uncertainty by setting a "low bar" for a UTS; and
 - (d) will potentially have an adverse effect on new investment in peaking plant.
19. In Meridian's view, these submissions carry little weight:
 - (a) As above, it makes little sense to suggest that it is prudent to hedge against excessive prices, and therefore little sense to suggest that prudent risk management practices will be affected if a UTS is declared.
 - (b) Similarly, there can be no "moral hazard" created by mitigation of market power. That is analogous to suggesting that burglars should not be jailed, because otherwise homeowners won't be security conscious.
 - (c) Any uncertainty about what is or is not a UTS going forward will be limited to a consideration of what offer prices are appropriate when a generator is net pivotal. If that results in uncertainty, then it is uncertainty that falls only on the generator with the market power. Previous market prices will provide guidance, and, in the period before any Code amendments are developed, any uncertainty is likely to be of limited consequence.
 - (d) There is no reason to think that efficient new investment will be deterred by this ruling.

20. In summary, Meridian does not consider that the events of 26 March represented "normal" trading. In Meridian's view:
- (a) the ability to set an arbitrarily high price cannot be said to be an equilibration of supply and demand in any meaningful sense;
 - (b) similarly, there is no economic justification for spot-exposed end users to face the risk of incurring a month's worth of average electricity charges in a 7 hour period in the absence of any shortage of capacity or energy; and
 - (c) hedging does not avoid the problem, but merely shifts the means by which the rent is extracted.
21. The reality is that Genesis sought to extract a considerable economic rent by taking advantage of transient market power. The risk of this behaviour recurring meant that factories ceased operation on 2 April and 14 May. For example, Goodward Industries has advised the Authority that it closed production on 2 April and will not commence production outside normal hours until advised that the situation will not occur again. In Meridian's view, allowing a party to offer in at such prices in the absence of any shortage of capacity or energy is detrimental to the wholesale market - New Zealand can ill afford such deadweight losses.

Likely consequences if a UTS is not confirmed in this case

22. Genesis's submission makes it clear that, unless the Authority finds a UTS, Genesis considers that it is both legitimate and appropriate for net pivotal generators to extract the maximum economic rental from their market power.
23. In Meridian's view, it follows that, should a UTS not be declared, it will be a case of "anything goes" - that is, extreme use of transient market power will become an established feature of the electricity market. If there is no consequence for such behaviour, then it would be irrational for generators not to consider doing so, particularly when they would be feeling the pinch from being charged economic rents by other participants in that position.
24. It is difficult to predict exactly what the future would hold in this scenario, but it can safely be assumed that, because being net pivotal would attract economic rents, generators would actively seek that position. This could result in bidding strategies designed to increase the prospect of being net pivotal, or more structural changes where generators seek to shed customers in order to improve their chances of being net pivotal. As noted in the draft decision (Box 1 after [107]), it is relatively common for a generator to be pivotal - currently, being net pivotal is less common, but that could easily change if there are rents to be extracted.
25. Situations such as appeared to be the case between Contact and Genesis on 2 April where both offered upper North Island generation at prices close to \$20,000/MWh - could also become more common. That is, it may become increasingly common to see behaviour that would not be expected to be observed in workably competitive markets. This would be an extremely negative development for both competition in and the efficiency of the New Zealand electricity market.
26. Whatever the outcome, it is clear that:
- (a) it would be unsafe to assume that the relative frequency of net pivotal situations in the past would be repeated in the future - generators would have every incentive to engineer situations of transient market power; and

- (b) the economic costs would be borne by consumers, either through higher spot prices or higher hedge or contract prices. In this regard, it is relevant to note that, when the Authority's draft decision was released on 6 May, there was an immediate and significant drop in OTA ASX futures contract prices (see graph below) - clearly indicating that the market's view is that restrictions on inappropriate exercise of transient market power via the UTS regime are likely to result in lower spot prices.



Note that:

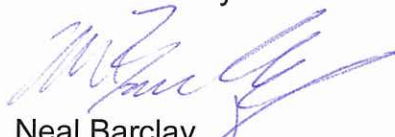
- (i) the price rise following the events of 26 March was even more abrupt than shown on the chart, which is a piecewise linear plot linking daily settlement prices;
- (ii) the apparent fall in price on 1 April was caused by the change of front month contract (i.e. from the March 2011 to the June 2011 contract).

Proposed remedy

27. As set out in our previous submission, Meridian would support a remedy which normalises prices for the relevant trading periods.
28. Genesis's position is that:
- the remedy proposed by the Authority would set a precedent that effectively amounts to a price cap, which would be contrary to the Authority's statutory purpose;
 - the Authority should not cap prices or administer offers when there was no manifest error and the market operated in accordance with the Code, and no inappropriate conduct from participants (to do so would cause uncertainty in the operation of the markets in the future);
 - the uncertainty of outcome and absence of opportunity to change offers may turn net producers to net buyers, who would incur significant penalties; and

- (d) the price range proposed by the Authority is significantly lower than the \$20,000 VoLL used in the grid investment test.
29. Meridian agrees with Genesis that, in the context of a UTS investigation, the Authority should refrain from setting prices at what the Authority considers the "right" level or prescriptively describing the boundary between acceptable and unacceptable offers.
30. However, in Meridian's view:
- (a) It would be inappropriate to refer to VoLL as suggested by Genesis given that the current UTS investigation deals with issues and situations which are quite distinct from those being considered in the Authority's scarcity pricing consultation.
- (b) In addition, the use of VoLL or LRMC would be unnecessarily punitive to customers given that there was no energy or capacity shortage. Meridian is not suggesting that the Authority speculate what prices would have been. While participants may not be able to change offers in response to the proposed reset Huntly offers, there is a need for a workable and practical solution that does not encourage similar situations in the future. Normalising prices by adjusting the offers of the participant causing the UTS would be a simple remedy to the "mischief".
31. Meridian maintains that prices should be reset to something close to what they would have been under normal trading at the relevant nodes. Normalising prices in such a way would not be setting a price cap - it would just be returning to an outcome consistent with a competitive market.
32. If you have any questions regarding this cross submission please contact either myself or Gillian Blythe (gillian.blythe@meridianenergy.co.nz, mobile 021 388 469).

Yours sincerely



Neal Barclay
General Manager, Markets and Production

DDI 04 381 7226
Fax 04 381 1201
Mobile 027 2301 904
Email neal.barclay@meridianenergy.co.nz



meridian

21 June 2011

Carl Hansen
Chief Executive
Electricity Authority
2 Hunter Street
Wellington

By Email: submissions@ea.govt.nz

Dear Carl

Proposed Actions regarding 26 March 2011 UTS

1. Meridian welcomes the Authority's final decision that the events of 26 March constituted a UTS, and the opportunity to submit on the draft decision in relation to the appropriate correctional actions.
2. This submission:
 - a. comments on the Authority's proposed correctional action;
 - b. sets out Meridian's view of the appropriate approach in this case; and
 - c. comments more generally on the need for Code reform moving forward.

Proposed correctional action

3. In Meridian's view, the Authority's proposed correctional action - determining final prices by reducing Huntly offers to an estimate of a demand-side response price - is difficult to support.
4. The Authority appears to take a "counterfactual"-based approach - i.e. re-running the events of 26 March but assuming that the factors that gave rise to the UTS were not in place. In Meridian's view, such an approach is fraught with difficulty and is not required by the Code. As the Authority has identified, the events of 26 March resulted from a confluence of events, and it is by no means clear which of those events should be assumed to be different in the counterfactual. For example, it is not clear why, if the counterfactual assumes that there was sufficient notice for a demand-side response, it should not also assume that there would have been a supply-side response (e.g. at Stratford). In Meridian's view, the uncertainty in deciding the relevant elements of the counterfactual argues against such an approach

Meridian's proposed approach

5. In Meridian's view, an appropriate response in this case is to recognise that, where a UTS has been declared by reason of a generator taking advantage of a net pivotal position in circumstances where there is no energy or capacity shortage, prices should "normalised" by being returned to workably competitive levels. Such a response is appropriate for the following reasons:
 - a. The remedy for a UTS should reflect the fact that the situation has been found to be "undesirable" and should set appropriate incentives going forward. Where a generator has taken advantage of a net pivotal position in circumstances where there is no energy or capacity shortage, the outcome should not be that its offers are reduced to a level many times higher than "normal". On that approach, there would be a real incentive for a party to contribute to a UTS. Indeed, as Meridian has previously submitted, generators could well begin to actively seek net pivotal status.
 - b. Similarly, the remedy should not punish end users by setting a higher price for electricity than, with notice, they would have been prepared to pay¹.
6. Meridian does not, however, suggest that the price normalisation process need involve a complex counterfactual assessment assessing alternative supply and demand responses. Rather, in Meridian's view a pragmatic approach is required, recognising the many variables involved and the need for there to be a disincentive to contribute to a UTS.
7. As previously submitted, Meridian therefore suggests that price normalisation should be achieved in this case by adjusting Genesis's Huntly offers to what they were at the same time in the previous week.

Need for Code reform

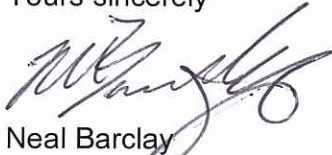
8. Finally, Meridian reiterates the need for a Code reform process to address whether transient market power mitigation measures are necessary or appropriate for the New Zealand market². While the UTS regime is a valuable "gap filler", it cannot take the place of a full consideration of the relevant issues, and is not a suitable mechanism for dealing with situations that may become increasingly frequent in future, particularly as it will remain unclear at the margins what is and what is not a UTS in the case of high offer prices. Meridian remains concerned that arbitrarily high prices in cases of transmission constraints will become the "new normal", and looks forward to working with the Authority to discuss appropriate reform measures.

¹ A case in point is Vodafone, which states that it would have arranged to have its cellular network powered by battery backup during the time of the price spike.

² Meridian recommends this is considered as a matter of urgency by the Wholesale Advisory Group.

9. If you have any questions regarding this cross submission please contact either myself or Gillian Blythe (gillian.blythe@meridianenergy.co.nz, mobile 021 388 469).

Yours sincerely



Neal Barclay
General Manager, Markets and Production

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Fax 04 381 1201

Mobile 027 2301 904

Email neal.barclay@meridianenergy.co.nz

