

---

# A clearer High Standard of Trading Conduct Rule

---

*Kieran Murray, Toby Stevenson*

---

14 February 2018



## About Sapere Research Group Limited

---

Sapere Research Group is one of the largest expert services firms in Australasia and a leader in provision of independent economic, forensic accounting and public policy services. Sapere provides independent expert testimony, strategic advisory services, data analytics and other advice to Australasia's private sector corporate clients, major law firms, government agencies, and regulatory bodies.

<b>Wellington</b> Level 9, 1 Willeston St PO Box 587 Wellington 6140 Ph: +64 4 915 7590 Fax: +64 4 915 7596	<b>Auckland</b> Level 8, 203 Queen St PO Box 2475 Auckland 1140 Ph: +64 9 909 5810 Fax: +64 9 909 5828	
<b>Sydney</b> Level 14, 68 Pitt St Sydney NSW 2000 GPO Box 220 Sydney NSW 2001 Ph: +61 2 9234 0200 Fax: +61 2 9234 0201	<b>Canberra</b> Unit 3, 97 Northbourne Ave Turner ACT 2612 GPO Box 252 Canberra City ACT 2601 Ph: +61 2 6267 2700 Fax: +61 2 6267 2710	<b>Melbourne</b> Level 8, 90 Collins Street Melbourne VIC 3000 GPO Box 3179 Melbourne VIC 3001 Ph: +61 3 9005 1454 Fax: +61 2 9234 0201

For information on this report please contact:

Name: Toby Stevenson  
 Telephone: +64 4 915 7616  
 Mobile: +64 21 666 822  
 Email: [tstevenson@srgexpert.com](mailto:tstevenson@srgexpert.com)



# Contents

---

Executive summary .....	v
<b>1. Introduction .....</b>	<b>1</b>
<b>2. A brief history .....</b>	<b>2</b>
2.1 The problem the Authority was addressing.....	2
2.2 The assessment undertaken by the WAG.....	3
2.2.1 WAG believed concerns warranted Code changes.....	3
2.2.2 Gross or net pivotal .....	4
2.2.3 WAG conduct provision and principles.....	5
2.2.4 The WAG’s reasoning .....	5
<b>3. The rule adopted by the Authority .....</b>	<b>8</b>
3.1 The Authority agreed with the WAG analysis .....	8
3.2 The reasons given for different test .....	10
<b>4. Design of the safe harbour rule.....</b>	<b>12</b>
4.1 Opportunism and safe harbours.....	12
4.2 A safe harbour in the long-term interest of consumers.....	12
4.3 Safe harbours in electricity markets when electricity is storable.....	13
4.4 The WAG’s principle 3 recognised these features.....	14
4.5 The unintended change by the Authority .....	15
4.6 The reasons given by the Authority for changing the test .....	16
4.7 Safe harbour rule can be improved for long-term benefit of consumers .....	17
4.7.1 Reinstate the WAG recommended principle 3 .....	18
4.8 A note on the first principle.....	19
<b>5. Interpreting and applying the HSOTC.....</b>	<b>20</b>
5.1 A high standard of trading conduct .....	20
5.1.1 Standards apply where bright line tests not practical .....	20
5.1.2 General principles for interpreting standards .....	21
5.1.3 Standards protect integrity of trading processes .....	21
5.2 Examples from other markets .....	22
5.2.2 Examples from commodity markets.....	22
5.2.3 Electricity markets.....	23
5.3 Our proposed approach to assessing trading conduct.....	24
5.3.1 Are high standards of conduct embedded within the firm’s practices?.....	25
5.3.2 Are all other rules complied with?.....	26
5.3.3 Are the offers lawful? .....	26
5.3.4 Is there a reasonable rationale for the offers?.....	26
5.3.5 Are the offers misleading or deceptive? .....	27
5.3.6 Manipulative or attempted manipulative trading activity.....	28
5.3.7 Is the integrity of the market undermined?.....	29

5.4	Flow diagram of a better rule.....	30
5.5	Tests focus on behaviour not outcomes .....	31

## Executive summary

---

In 2012 the Electricity Authority (Authority) was concerned that, in situations where demand cannot be met without the services of a specific generator (a “pivotal” supplier), the generator could determine their offers knowing they would likely set final prices in the market (or a region of a market). In this case the generator may have an incentive to set their offer price (and by implication determine the cleared price) at an artificially high level. An artificial price is one that does not reflect the forces of genuine supply and demand in an open, informed and efficient market.

Prices set artificially high could:

- reduce confidence in the price discovery process as prices in the pivotal period would be imposed by a single entity, not discovered through market exchanges
- wrongly incentivise new investment in generation or transmission or in demand reduction (as the price results from the exercise of market power rather than underlying excess of demand relative to supply)
- impede entry and competition in the retail markets by increasing price risk.

The Authority asked the Wholesale Advisory Group (WAG) to consider issues associated with supplier situations where prices could be set artificially including situations where suppliers are pivotal. A supplier is said to be pivotal when it must offer at least some of its capacity if demand in a given area is to be met. The Authority described pivotal supplier situations as periods where the competitive forces in the wholesale market are temporarily reduced, generally due to a short-term transmission constraint.

The WAG agreed with the Authority that there was potential for material efficiency losses to arise, in some scenarios, where suppliers are pivotal. The WAG focussed on generators who are gross pivotal; they took the view that regardless of what retail load and hedge positions a vertically integrated generator/retailer has they may have a preference and an incentive for higher posted prices including where they are pivotal.

We take as the starting point for this report that the Authority has determined that a rule in the Code is necessary to address the potential abuse of short term market power in pivotal situations. There are two important implications for our analysis as a result of this starting point:

- Firstly, our starting point recognises that the Code (intentionally) imposes a stricter test on suppliers in a pivotal situation than the general provisions of the Commerce Act; the concept of workable competition typically recognises that episodes of temporary market power can and do occur in workably competitive markets, and the Commerce Act does not prohibit high or even monopoly prices.
- Secondly, the focus of our report is on whether the rule, as drafted, gives rise to consequences not intended by the Authority, and whether an amendment would reduce those unintended effects without impairing the Authority’s objective of curtailing the potential abuse of market power by pivotal suppliers.

We view this approach as consistent with the Authority’s work programme in which it states its aim in reviewing the trading conduct provisions is “improved wholesale market competition by ensuring the trading conduct provisions are practicable and well understood.”

The WAG proposed an approach that placed a positive obligation on suppliers when they are gross pivotal to observe a high standard of trading conduct. The WAG suggested a supplier would be deemed compliant with the positive obligation if its actions were consistent with three principles:

- Principle 1 – all generating capacity expected to be physically available is offered when a plant has been committed to generate
- Principle 2 – intentions to make changes to offers (prices and/or quantities) should be submitted at the earliest opportunity (to minimise late changes that provide little chance for others to respond)
- Principle 3 – price and quantity pairs in offers are not materially different between adjacent trading periods, except where there is a bona fide physical factor that alters the participant's capability to generate electricity between those periods.

The WAG considered how this third principle might impact on the incentives and behaviour of pivotal suppliers:

- a pivotal supplier attempting to 'price up' offers across non-pivotal periods to achieve a greater consistency in the offer price structure would sacrifice generation volumes in those non-pivotal periods. The size of the cost to the pivotal supplier would depend upon factors such as its generating costs relative to prices, generation volumes and hedge contract and retail positions, and importantly, the competitive constraints acting within those adjacent periods.<sup>1</sup>
- the WAG considered a number of hypothetical scenarios to assess whether the principles would inhibit reasonable action by "a last resort provider" (e.g., offer 'overload' capability at higher prices, expecting to be cleared if actual need arises, but not otherwise); the WAG concluded that its proposed approach would be unlikely to undermine incentives to invest in last resort plant.

The Authority concluded that the WAG proposals "were robust and required relatively little adjustment". The Authority introduced a rule to require a generator or ancillary service agent to make offers and reserve offers in a manner consistent with a high standard of trading conduct (HSOTC) in clause 13.5A and provided that the rule would apply to all suppliers (pivotal and non-pivotal) and at all times.

In line with the WAG's recommendation, the provision adopted by the Authority includes a set of conditions in clause 13.5B known as the safe harbour rule. If the generator satisfies the safe harbour rule they automatically satisfy the HSOTC rule. If the generator falls outside the safe harbour, however, it doesn't follow that they fail the HSOTC provisions with that requiring separate consideration.

While the Authority accepted the WAG's analysis and indicated it considered its decisions were in keeping with the WAG recommendations, the third condition set by the Authority

---

<sup>1</sup> The WAG did not refer explicitly to competitive constraints in the adjacent periods but the point underlies their comment that a generator raising offer prices in adjacent periods would sacrifice volume. The implication is that if a pivotal supplier were able to 'price-up' across pivotal and non-pivotal periods, it is facing weak competitive pressure in non-pivotal periods and therefore any increase in wholesale prices arguably sends economically efficient signals for new entry or demand response.



(which appears as the sub tests at 13.5B(1)(c)) is different from the third principle proposed the WAG. Table 1 shows the difference in approach:

**Table 1 Comparison of WAG and Authority third condition**

	WAG Proposal	Authority decision
Safe harbour principle 3	Price and quantity pairs in offers are not materially different between adjacent trading periods, except where there is a bona fide physical factor that alters the participant’s capability to generate electricity	There are three ways to comply: (a) market price does not increase materially as a result of the supplier’s offers when a supplier is pivotal or (b) offers when a supplier is pivotal are generally consistent with offers when it is not or (c) the supplier can demonstrate it has not benefited financially.

The Authority agreed with the WAG rationale that principle 3 should “reduce the scope for suppliers to modify their offers markedly across adjacent trading periods, solely because they expect to be pivotal in one of the periods.” It considered that its application of the principle was “based on the approach recommended by the WAG”.

However, the Authority considered that the principle as proposed by the WAG could have impacted more widely than intended because:<sup>2</sup>

- it was framed in terms of changes to offers regardless of any effect on market prices
- it would deny safe harbour to pivotal suppliers whose retail and hedge sales exceed generation volumes and “have no incentive to raise prices”.

The Authority considered that under its wording:

- pivotal suppliers would not be constrained from making material changes to their offers per se, but only if the offer behaviour results in a material increase in prices
- a supplier that regularly offers ‘last resort’ plant at high prices would qualify for the safe harbour
- suppliers would have a more objective criterion (not benefiting financially) and need not be concerned about the meaning of “material price increase” and “comparable trading periods” (although these phrases were introduced by the Authority’s drafting).

In its 2014 decision paper, the Authority concluded that the Code amendment described above would better meet its statutory objective than the WAG’s approach because it “will reduce the incidence of inefficiently high prices in pivotal supplier situations”.

A safe harbour rule acts as a filter to reduce the social costs of potentially opportunistic behaviour. These costs have two distinct components:

<sup>2</sup> Electricity Authority, (18 February 2014) *Improving the efficiency of prices in pivotal supplier situations*, Consultation Paper, paragraphs 4.9.4.

- One set of costs concerns the net social costs of any opportunistic price increase and the private measures taken to defend against (or respond to) those inefficient prices.
- The second set is the costs of operating the enforcement system. These costs include the costs to the Authority and market participants of any investigation. Importantly, the social cost of the enforcement system also includes the cost of errors and private measures to defend against or avoid being exposed to errors (such as altering what would be efficient offers into the market).

An efficient safe harbour rule would minimise the sum of these costs by:

- permitting (providing a safe harbour to) actions which can generally be presumed to be in the long-term interest of consumers – this presumption avoids raising costs in the wholesale market unnecessarily through subjecting to investigation actions likely to be in the long-term interest of consumers
- exposing to the HSOTC rule, and hence the possibility of investigation, actions which can generally be presumed to not be in the long-term interest of consumers, except in specific circumstances (which would be considered in any investigation).

Principle 3 as recommended by the WAG recognised the particularly high level of participation by hydro based electricity generation in the New Zealand market. While some proportion of hydro generation is priced as run of river hydro flows a significant proportion of hydro releases are offered according to each generator’s own circumstances and their perception of the opportunity cost of generating in the near term or not. Hydro generators are also able to offer additional generation they don’t wish to run but would at a price that justifies their inconvenience. This “last resort generation” and the flexibility it affords the New Zealand system is an integral part of its reliability and, as a consequence, the long term interest of consumers.

The safe harbour test the Authority introduced for pivotal suppliers is quite different from the WAG’s proposal in terms of the offer strategies for which it provides a safe harbour and the incentives it creates on suppliers. In particular, the Authority’s test switches the focus from the behaviour of the supplier to the outcomes experienced in the market. A supplier in a pivotal position could find itself outside of the safe harbour where:

- it had not changed its offers to take advantage of being in a pivotal position – that is, it had not acted opportunistically - but an increase in demand or a short fall in generation by other parties meant the last resort generation was called to operate and as a result market prices increased
- the generator had priced its last resort generation to provide a reasonable return on its investment and obtained that financial benefit from the higher market prices
- it could not show that its offer was consistent with offers when it was not pivotal, possibly because it had modified its strategy in the hope of not breaching the above two criteria or for some other, non-opportunistic, reason.

This shift in focus, from the behaviour of the supplier when pivotal to observable and assessed market outcomes, likely colours any investigation of whether an offer by a generator found to be outside the safe harbour was consistent with a high standard of trading conduct. For example, in the cover letter to the Authority’s decision on whether Meridian breached the HSOTC rule, the Authority’s Chair observes “Meridian was pivotal at the time and final

prices in the South Island in the range of \$3,000 to \$4,600 per MWh resulted that had no relation to scarcity.”

Although it does not seem to have formed part of the Authority’s formal decision itself, these comments imply that the prices observed in the market, and the Authority’s view as to whether those prices were efficient, were relevant considerations in its assessment of whether offers made during the relevant trading periods were consistent with a HSOTC. However, this is an inference on our part. It is not clear from the Authority’s decision as to whether it concluded that prices in the market were inefficiently high, the basis on which any such conclusion might have been reached, or when a supplier might become responsible for market outcomes as opposed to its offers.<sup>3</sup> In particular the ruling gives no ex ante guidance to traders pricing offers for generation capacity to be available to be called for reliability purposes.

This set of consequences places both the Authority and the supplier in an invidious position:

- a supplier preparing offers for last resort generation in advance cannot be confident as to what the price outcomes of those offers will be as it does not know if that generation would be called or if it would be pivotal when asked to generate or whether in the circumstances the Authority would view the prices as artificially high
- the Authority cannot be confident that any particular price for last resort generation is inefficiently high as the efficient price is not observable; the efficient price is the opportunity cost and this depends upon the expectations of the generator and marginal demand.

With the benefit of experience, the reasons given by the Authority for replacing the WAG’s recommended principle 3 with the tests described above do not seem strongly connected either to its problem definition nor its objectives.

When assessed against the test for an efficient safe harbour rule of minimising the sum of the costs of potential opportunistic behaviour and enforcement costs, there is clearly room to improve the current rule. The current rule would permit opportunistic behaviour by a generator that did alter its offers when pivotal, as long as its generation matched its purchase commitments (i.e. retail sales plus hedge commitments), while the Authority’s approach to the current rule would potentially subject to investigation a generator that did not change its offer in circumstances where wholesale prices jumped because of some other event.

We find that the safe harbour rule would be improved by replacing the Authority’s three tests which apply when a supplier is pivotal, with a rule applying principle 3 (in place of 13.5B (1) (c)) as recommended by the WAG.

To recognise the reality that in some areas of the New Zealand market, a specific generator is often pivotal, the test should also require that the generator’s price and quantity pairs are not

---

<sup>3</sup> The Authority’s 4 May 2017 decision says: “Meridian used its pivotal position to cover its unhedged North Island risk on 2 June 2016, which essentially resulted in the cost of the risk being met by other parties. The high standard of trading conduct provisions were introduced to improve the efficiency of prices in pivotal supplier situations and the Authority would have expected Meridian to have covered its risk using other available risk management products or if it chose not to do that then bear the cost of the risk if it eventuates.”

substantially different from the offers of other last resort generators made during periods those generators are not pivotal. That is, the generator had not altered its offers substantially from adjacent trading periods, and its offers were not substantially different from the offers of the other last resort generators made during competitive conditions.

Combining these two points we propose a new safe harbour test such that a pivotal supplier would be deemed to be compliant with the HSOTC rule where:

*its price and quantity pairs in offers are not substantially different between the adjacent trading periods,*

and

*its offer price is not substantially different from the offers of other last resort generation made during periods those generators are not pivotal*

This change would advance the Authority's statutory objective because:

- it provides for suppliers of last resort to be compensated for making generation available, as long as the prices offered do not exceed those offered in periods in which the supplier is constrained by the competitive conditions in the market – a supplier cannot alter its offer simply because it is pivotal without being able to justify that its offer remains consistent with a HSOTC
- neither the Authority nor suppliers need to second guess as to what prices might be efficient, when supply is constrained relative to demand
- all participants in the market (purchasers and suppliers) can have confidence that the prices that might prevail in pivotal periods will be no higher than prices in periods when suppliers are not pivotal (except where higher prices can be justified on investigation as being consistent with the HSOTC rule)
- suppliers have a clear rule, ex ante, as to what offers are acceptable during periods they become pivotal.

Having addressed the workings of the safe harbour rule and the move away from the WAG's recommendation in drafting the final rule we turn to an issue that, in our view, remains unresolved: how to assess whether, for a supplier outside the safe harbour, its conduct in relation to offers and reserve offers is consistent with a high standard of trading conduct. As the Authority observes in its May 2017 decision in relation to Meridian's offers, there exist disparate opinions on what is a high standard of trading conduct and the Code provisions may require further refinement and clarification to assist market participants.

Most rules in the Code express precisely what a participant can and cannot do. However, the HSOTC provision (in clause 13.5 A) is expressed in terms of a broad standard of behaviour. Precise rules are efficient where it is possible to stipulate required behaviour in advance. Standards are necessary where it is not practical to specify behaviour in advance, or where the application of the rule may depend on the circumstances, and the interpreting body must determine after the event whether the behaviour met the rule.

Although it may not be practical to write bright line tests to govern all possible actions, the literature and experience from other markets allow us to develop a set of tests that could provide more clarity as to how the HSOTC rule would be applied. These tests could be applied by a market participant ahead of time when developing their own policies or

composing trading strategies. The same tests could then be used by the Authority to assess trading conduct after the event. A similar approach is taken with the UTS rule, which provides examples for guidance.

This concept of interpreting conduct from the perspective of informed stakeholders is developed in the economics literature as a test for interpreting standards or imputing undefined terms. A broad standard can be interpreted by figuring out what measures the parties to the transaction would have agreed to unilaterally had circumstances allowed for those negotiations. This approach, to interpreting a standard, accords with the overarching purpose of an organised market of facilitating exchange.

Taken as a whole, the rules of an organised market intend to give those who trade on the exchange confidence in the reliability of the transactions executed on the exchange. The rules of an organised market protect the integrity of the price discovery and settlement processes and thereby facilitate transactions.

Standards of conduct on market participants in relation to trading behaviour are common to many forms of organised markets to help maintain the integrity of the market. Behaviour standards apply in situations where participants may be otherwise compliant and able to say “we followed the rules” but have still broken a level of acceptable behaviour in that market. Examples of trading conduct rules can be found in physical commodity markets, financial markets (including markets for commodity derivatives) and electricity markets.

Our review of market conduct rules in a number of markets, and reflecting on the general principles for interpreting standards, leads us to propose a series of tests of behaviours that can be applied to action and commitments made ex ante. We anticipate that, if the Authority followed this path the tests would be refined and drafted into the Code. Below we set out the tests that we would apply to the HSOTC rule in the form of seven questions. The use of tests along these lines would give participants, investigators and the Authority more certainty about what is expected over and above adherence to all of the bright line rules in the Code. Our suggested tests take the form of the following seven questions which participants could ask themselves before the event knowing that these are the questions the Authority would ask after the event:

- Does the participant firm provide guidance to its traders on the need to ensure its composition of offers and bids is consistent with a HSOTC?
- Has the participant satisfied all of the rules within the regulator’s jurisdiction other than the HSOTC rule?
- Is the activity under investigation lawful? (We propose including this in a list of matters the Authority will consider with regard to HSOTC in addition to the general provision in 13.5)
- Can the participant provide a reasonable rationale for the composition of their offers?
- Was the action or sequence of actions the generator took misleading or deceptive, or likely to mislead or deceive? (We propose including this in a list of matters the Authority will consider explicitly in relation to HSOTC in addition to the general provision in 13.2)
- Can the behaviour be characterised as manipulative or attempted manipulative trading activity? A test of manipulative or attempted manipulative trading activity would typically look at three indicators:

- (a) Illicit purpose;
  - (b) Uneconomic conduct; or
  - (c) Conduct inconsistent with market fundamentals.
- Is the trust in the market and its integrity undermined by the behaviour?

The emphasis in this list of proposed tests for trading conduct is on behaviour rather than outcomes. The Authority's view of behaviours appears to have been driven by outcomes viewed through its statutory objective. Such an approach leads to a strong temptation to consider behaviour through tests such as whether the outcomes are:

- deemed to signal scarcity
- perceived to be the result of innovation
- assessed as creating a useful signal for potential entrants.

These issues may form a useful framework for judging the success of market design but do not inform the Authority on the behaviour of participants as much as the ex ante circumstances in the market and participants' motives. If a behaviour is acceptable and the outcomes are not what the Authority wants, it can make its expectations clear and change the rules.

Both the changes we propose to the safe harbours and to the HSOTC rule would need to be refined and drafted into the Code. An initial attempt is offered in the Appendix for illustrative purposes only. This is not intended to be the finished article and would at the least need to be subjected to a careful legal review if our proposed changes were adopted.

# 1. Introduction

---

In 2014, the Electricity Authority (Authority) introduced a High Standard of Trading Conduct (HSOTC) rule. This rule was implemented following an investigation and report from the Wholesale Advisory Group (WAG). This report considers the rule as implemented against the problem the Authority perceived and the objectives the Authority expected to achieve. It draws from investigation by the WAG, experience with the rule as written, relevant literature and international experience to suggest an amendment to the rule to better advance the Authority’s statutory objective. We focus on the impact of the rule in situations where a hydro operator has discretion over the timing of its release of and generation from stored water. Hydro generators with water storage in effect store electricity for use in later periods – the stored water can be used to generate electricity now or at some future date. The ability to “move” energy between periods makes operating decisions for hydroelectricity plants intrinsically dynamic: each additional unit of electricity produced at a given moment lowers the level of the plant’s reservoir, thereby reducing the availability of “fuel” – water – for future production. In contrast, the operation of thermal units has a static nature since the amount produced in a given period does not affect the production possibilities in subsequent periods (assuming availability of gas or coal supplies). The dynamic nature of stored hydro presents different opportunities, incentives and methods of exploiting market power compared with markets in which thermal plants dominate, and means rules intended to curb abusive behaviour can have unintended impacts. We explore these implications for the design and application of a HSOTC rule.

The dynamic effects considered in this report may also be relevant for emerging technologies like grid scale batteries that store electricity as well as the current hydro reliant system.

We structure the body of our report into 5 sections as follows:

- Section 2, ‘a brief history’, summarises the:
  - (a) problem identified by the Authority and investigated by the WAG
  - (b) assessment undertaken by the WAG in arriving at its recommendations.
- Section 3, ‘the rule adopted by the Authority’, describes the current rule and the reasons the Authority gave in specifying, in some aspects, a test different from that recommended by the WAG.
- Section 4, ‘design of a safe harbour rule’, assesses the safe harbour rule as implemented and how it could be improved.
- Section 5 considers the interpretation and application of a HSOTC and develops tests that could be applied by a market participant ahead of time when developing their own policies or composing trading strategies and used by the Authority to assess trading conduct after the event.

This report was written at the request of Meridian Energy. The views set out in our paper are our views and are not necessarily shared by Meridian. In our brief Meridian stressed that our work should not seek to re-litigate the decision arrived at by the Authority in relation to the events of 2 June 2016 that involved Meridian.

## 2. A brief history

---

### 2.1 The problem the Authority was addressing

In July 2012, the Authority asked WAG to consider issues associated with pivotal supplier situations. A supplier is said to be pivotal when it must offer at least some of its capacity if demand in a given area is to be met. A supplier may be pivotal in an entire island or both islands, or in a smaller region. The Authority described pivotal supplier situations as periods where the competitive forces in the wholesale market are temporarily reduced, generally due to a short-term transmission constraint.<sup>4</sup>

The Authority was concerned that, in situations where demand cannot be met without the services of a specific generator (the pivotal supplier), the generator could set the price in the market (or a region of a market) and may have an incentive to set it to a high level.<sup>5</sup> Such prices might be viewed as artificial, in the sense of a price that does not reflect the forces of genuine supply and demand in an open, informed and efficient market. Prices set artificially high could:

- reduce confidence in the price discovery process as prices in the pivotal period would be imposed by a single entity, not discovered through market exchanges
- wrongly incentivise new investment in generation or transmission or in demand reduction (as the price results from the exercise of market power rather than underlying excess of demand relative to supply)
- impede entry and competition in the retail markets by increasing price risk.

Analysis undertaken by the Authority suggested that pivotal supplier situations were relatively rare, but did arise from time-to-time in the New Zealand wholesale market. Examples provided by the Authority included:

- a market performance review carried out by the Authority in 2012 indicated a generator could be pivotal in the Tekapo A / Albury area, Cobb / Motueka area, Karapiro / Cambridge / Te Awamutu area, East Cape area and the Greymouth area<sup>6</sup>
- an analysis by the Authority that generators would have been pivotal over the period 2009-2011 (assuming Pole 3 of the HVDC inter-island transmission link had been commissioned):<sup>7</sup>
  - (a) nationally, in about 5% of trading periods

---

<sup>4</sup> Electricity Authority, (18 February 2014) *Improving the efficiency of prices in pivotal supplier situations*, Consultation Paper, page C.

<sup>5</sup> Electricity Authority, (18 February 2014) *Improving the efficiency of prices in pivotal supplier situations*, Consultation Paper, page C.

<sup>6</sup> Electricity Authority, (18 February 2014) *Improving the efficiency of prices in pivotal supplier situations*, Consultation Paper, para 2.1.8.

<sup>7</sup> <http://www.ea.govt.nz/dmsdocument/15049>



- (b) in the North Island, in about 5% of trading periods
- (c) in the South Island, in around 9% of trading periods.

The Authority identified several factors which it considered may affect the potential for a pivotal supplier to profit by raising prices:<sup>8</sup>

- the quantity the pivotal supplier must offer for the market to clear
- the amount of generation that the supplier must run (for instance to meet resource consent requirements)
- the extent to which the supplier is exposed to spot prices (which depends on its hedge position and retail commitments).

The Authority referred to a pivotal supplier whose generation volume would exceed its hedging transactions and retail commitments as being *net* pivotal. (The distinction between a generator being net pivotal or gross pivotal is discussed below.)

In short, the Authority was concerned about situations where a generator had both the incentive and the means to exploit short-term market power. The Authority was concerned that such behaviour could inefficiently discourage retail competition and business investment in the general economy.<sup>9</sup>

In asking the WAG to consider the issue, the Authority sought to:<sup>10</sup>

*improve confidence in the efficiency of prices when competitive pressures in the wholesale market are weak, thereby contributing to the Authority's statutory objective by improving wholesale and retail market competition.*

## 2.2 The assessment undertaken by the WAG

### 2.2.1 WAG believed concerns warranted Code changes

The WAG agreed with the Authority that there was potential for material efficiency losses to arise, in some scenarios, where suppliers are pivotal.<sup>11</sup> Submitters on the WAG discussion paper had generally agreed with the WAG that there was potential for efficiency losses in some circumstances, but had mixed views on how likely or significant those efficiency losses would be.<sup>12</sup> The WAG, however, believed the concerns about pivotal supplier situations were sufficiently serious to warrant the Authority considering Code changes. However,

---

<sup>8</sup> Electricity Authority, (18 February 2014) *Improving the efficiency of prices in pivotal supplier situations*, Consultation Paper, page 5.

<sup>9</sup> Electricity Authority, (18 February 2014) *Improving the efficiency of prices in pivotal supplier situations*, Consultation Paper, page C.

<sup>10</sup> Correspondence – letter to WAG Chair, (22 June 2012), WAG work plan: <http://www.ea.govt.nz/our-work/advisory-working-groups/wag/5Jul12/>

<sup>11</sup> Wholesale Advisory Group, (25 September 2013), *Pricing in pivotal supplier situations recommendations paper*, paragraph 4.2.1.

<sup>12</sup> Wholesale Advisory Group, (25 September 2013), *Pricing in pivotal supplier situations recommendations paper*, paragraph 4.2.1.

given the uncertainty about the extent of potential efficiency losses, the WAG recommended the Authority focus on options with a relatively low risk of unintended consequences.<sup>13</sup>

We do not revisit the analysis by the Authority and the WAG of the potential efficiency losses from pivotal situations. We take as the starting point for this report that the Authority has determined that a rule in the Code is necessary to address the potential abuse of short term market power in pivotal situations. There are two important implications for our analysis as a result of this starting point:

- Firstly, our starting point recognises that the Code (intentionally) imposes a stricter test on suppliers in a pivotal situation than the general provisions of the Commerce Act; the concept of workable competition typically recognises that episodes of temporary market power can and do occur in workably competitive markets, and the Commerce Act does not prohibit high or even monopoly prices.<sup>14</sup>
- Secondly, the focus of our report is on whether the rule as drafted gives rise to consequences not intended by the Authority, and whether an amendment would reduce those unintended effects without impairing the Authority’s objective of curtailing the potential abuse of market power by pivotal suppliers.

We view this approach as consistent with the Authority’s work programme in which it states its aim in reviewing the trading conduct provisions is “improved wholesale market competition by ensuring the trading conduct provisions are practicable and well understood.”

## 2.2.2 Gross or net pivotal

The WAG acknowledged the argument that a supplier that is only *gross pivotal* (a pivotal supplier whose generation is not greater than its own retail and hedge sales in the relevant area) may not have an incentive to raise spot prices if this would result in its generation being less than its retail and hedge sales. However, the WAG observed that unless its retail and hedge sales have fixed prices and relatively long terms, a supplier may still prefer higher spot prices in a pivotal situation, even if the supplier is not net pivotal.<sup>15</sup> The supplier would likely prefer higher prices in a small number of trading periods because those higher prices would presumably support annual average prices and, as a result, potentially higher contract prices in the future. Hence, the threat of demand response or new generation, the WAG reasoned, may be more important constraints on pricing by pivotal suppliers than its contract or retail position.

Reflecting this analysis, the recommendations developed by the WAG applied to suppliers in a gross pivotal position.

---

<sup>13</sup> Wholesale Advisory Group, (25 September 2013), *Pricing in pivotal supplier situations recommendations paper*, paragraph 5.1.1.

<sup>14</sup> Commerce Commission, (22 May 2009), *Investigation Report, Commerce Act 1986, S 27, S 30 and S36 Electricity Investigation*, paragraph 232.

<sup>15</sup> Wholesale Advisory Group, (25 September 2013), *Pricing in pivotal supplier situations recommendations paper*, paragraph 4.1.3.

We agree with the conclusion by the WAG – that a supplier is likely to prefer higher spot prices in a pivotal situation whether or not it is net pivotal. While it is tempting to limit consideration to net pivotal situations (because that reduces significantly the number of trading periods which might be captured by a HSOTC rule), truncating the analysis in this way would be problematic because:

- it would allow the possibility that some situations in which there was potential for an abuse of short term market power in pivotal situations would be excluded from the analysis, which would be inconsistent with the objective the Authority set when it last considered these issues
- the truncating would be because only some incentives acting on suppliers (short-term contract positions rather than future contracts) were taken into account, and an analysis which considers just some incentives risks unintended consequences.

### 2.2.3 WAG conduct provision and principles

The WAG proposed an approach that placed a positive obligation on suppliers when they are gross pivotal to observe high standards of trading conduct. The WAG suggested that a supplier could be deemed compliant with the positive obligation if its actions were consistent with three principles:<sup>16</sup>

- Principle 1 – all generating capacity expected to be physically available is offered when a plant has been committed to generate
- Principle 2 – intentions to make changes to offers (prices and/or quantities) should be submitted at the earliest opportunity (to minimise late changes that provide little chance for others to respond)
- Principle 3 – price and quantity pairs in offers are not materially different between adjacent trading periods, except where there is a bona fide physical factor that alters the participant’s capability to generate electricity between those periods.

### 2.2.4 The WAG’s reasoning

In explaining its reasoning for these principles, the WAG took the view that suppliers are responsible for determining the prices and quantities in their offers, and these offers should be conditioned by competition as far as possible. With this concept in mind, the WAG viewed:<sup>17</sup>

- principle 1 as precluding the deliberate withholding of capacity
- principle 2 as ensuring the market is informed about upcoming supply conditions and prices
- principle 3 as reducing the scope for suppliers to modify their offers markedly across adjacent trading periods, solely because they expect to be pivotal in one of the periods.

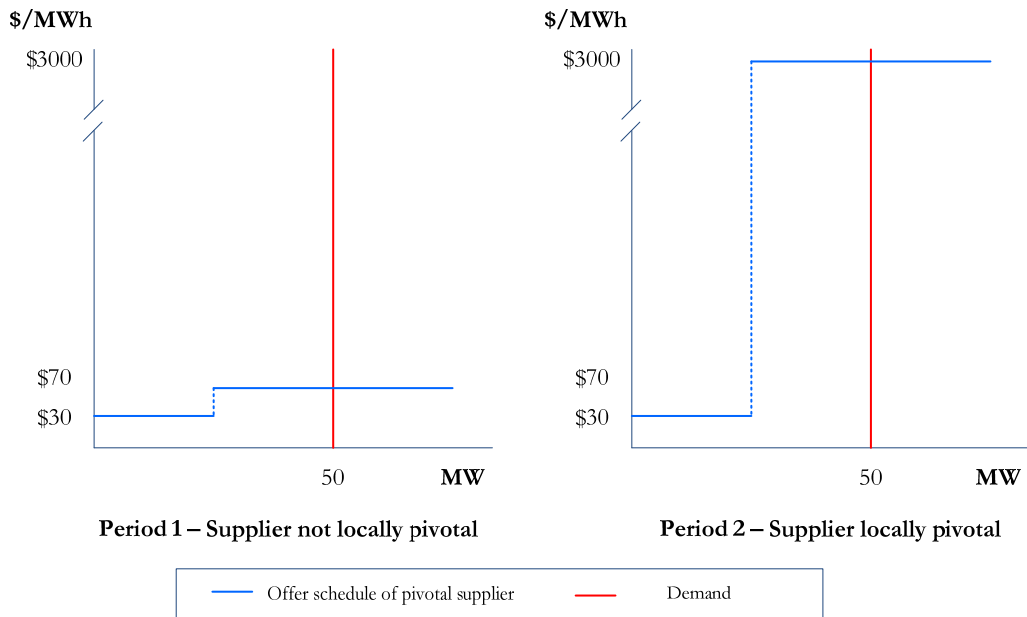
---

<sup>16</sup> Wholesale Advisory Group, (25 September 2013), *Pricing in pivotal supplier situations recommendations paper*, paragraphs 6.2.2, 6.2.3.

<sup>17</sup> Wholesale Advisory Group, (25 September 2013), *Pricing in pivotal supplier situations recommendations paper*, paragraphs 6.2.2, 6.2.3.

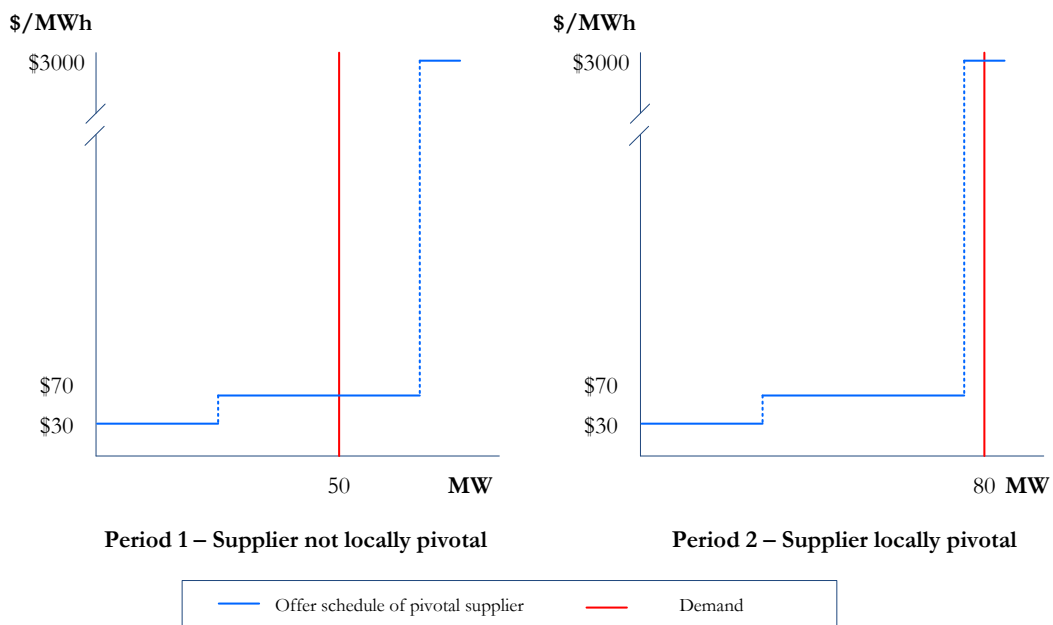
The WAG emphasised that principle 3 was not intended to dampen spot prices per se, but sought to reduce the scope for suppliers to react opportunistically to situations where competition is temporarily reduced due to factors such as a transmission outage. The WAG provided the following examples of situations that would and would not contravene principle 3.

**Figure 1 Example of situation that would contravene principle 3**



**Source:** WAG pivotal pricing recommendation paper, figure 1

**Figure 2 Example of situation that would meet principle 3**



**Source:** WAG pivotal pricing recommendation paper, figure 2

In both examples, events in the market result in the spot price jumping from around \$50 MWh to \$3,000 MWh. In the first example (which breaches WAG's principles) this price jump occurs because the supplier escalates its offer price when pivotal relative to what it offered when not pivotal. In the second example, the price jump occurs because demand increases; the supplier does not alter its offer price relative to what it offered when not pivotal, hence the supplier did not act opportunistically.

The WAG reviewed pivotal supplier situations which had (prior to its report) raised concerns and concluded that in all of the cases it examined one or more of the principles would not have been met. In particular, principle 3 (illustrated in Figure 1 above) would not have been met in a number of cases because there was a marked change in the structure of the offer prices/quantities by the pivotal supplier between adjacent trading periods.<sup>18</sup>

The WAG considered how this third principle might impact on the incentives and behaviour of pivotal suppliers:

- a pivotal supplier attempting to 'price up' offers across non-pivotal periods to achieve a greater consistency in the offer price structure would sacrifice generation volumes in those non-pivotal periods. The size of the cost to the pivotal supplier would depend upon factors such as its generating costs relative to prices, generation volumes and hedge contract and retail positions, and importantly, the competitive constraints acting within those adjacent periods.<sup>19</sup>
- the WAG considered a number of hypothetical scenarios to assess whether the principles would inhibit reasonable action by "a last resort provider" (e.g., offer 'overload' capability at higher prices, expecting to be cleared if actual need arises, but not otherwise); the WAG concluded that its proposed approach would be unlikely to undermine incentives to invest in last resort plant.<sup>20</sup>

The WAG made other recommendations in relation to the net benefit test used in the Outage Protocol, publication of information, and market monitoring. These recommendations were addressed by the Authority in other aspects of its work programme and are not incorporated into the HSOTC and therefore are not considered in this report.

---

<sup>18</sup> Wholesale Advisory Group, (25 September 2013), *Pricing in pivotal supplier situations recommendations paper*, paragraphs 6.5.1, 6.5.2.

<sup>19</sup> Wholesale Advisory Group, (25 September 2013), *Pricing in pivotal supplier situations recommendations paper*, section 6.5. The WAG did not refer explicitly to competitive constraints in the adjacent periods but the point underlies their comment that a generator raising offer prices in adjacent periods would sacrifice volume. The implication is that if a pivotal supplier were able to 'price-up' across pivotal and non-pivotal periods, it is facing weak competitive pressure in non-pivotal periods and therefore any increase in wholesale prices arguably sends economically efficient signals for new entry or demand response.

<sup>20</sup> Wholesale Advisory Group, (25 September 2013), *Pricing in pivotal supplier situations recommendations paper*, section 6.6.

## 3. The rule adopted by the Authority

---

### 3.1 The Authority agreed with the WAG analysis

After analysing the WAG recommendations, the Authority concluded that the WAG proposals “were robust and required relatively little adjustment”.<sup>21</sup> In keeping with the WAG recommendations, the Authority decided to require a generator or ancillary service agent to make offers and reserve offers in a manner consistent with a high standard of trading conduct (HSOTC). The Authority set this obligation, contained in clause 13.5A of the Code, to apply at all times, not just when the supplier was pivotal, as the WAG had proposed.

As proposed by the WAG, the rule developed by the Authority also took the form of a series of conditions (the WAG referred to these conditions as principles). Together these conditions are referred to as the safe harbour rule, and are contained in clause 13.5 B (1) of the Code. If a generator satisfies these conditions it is in the safe harbour and is deemed to have conformed to the HSOTC rule. If a generator falls outside the safe harbour provision it does not automatically follow that it fails the high standard of trading conduct; that is, the trading behaviour may fall outside the safe harbour but still be found to meet a high standard of trading conduct.

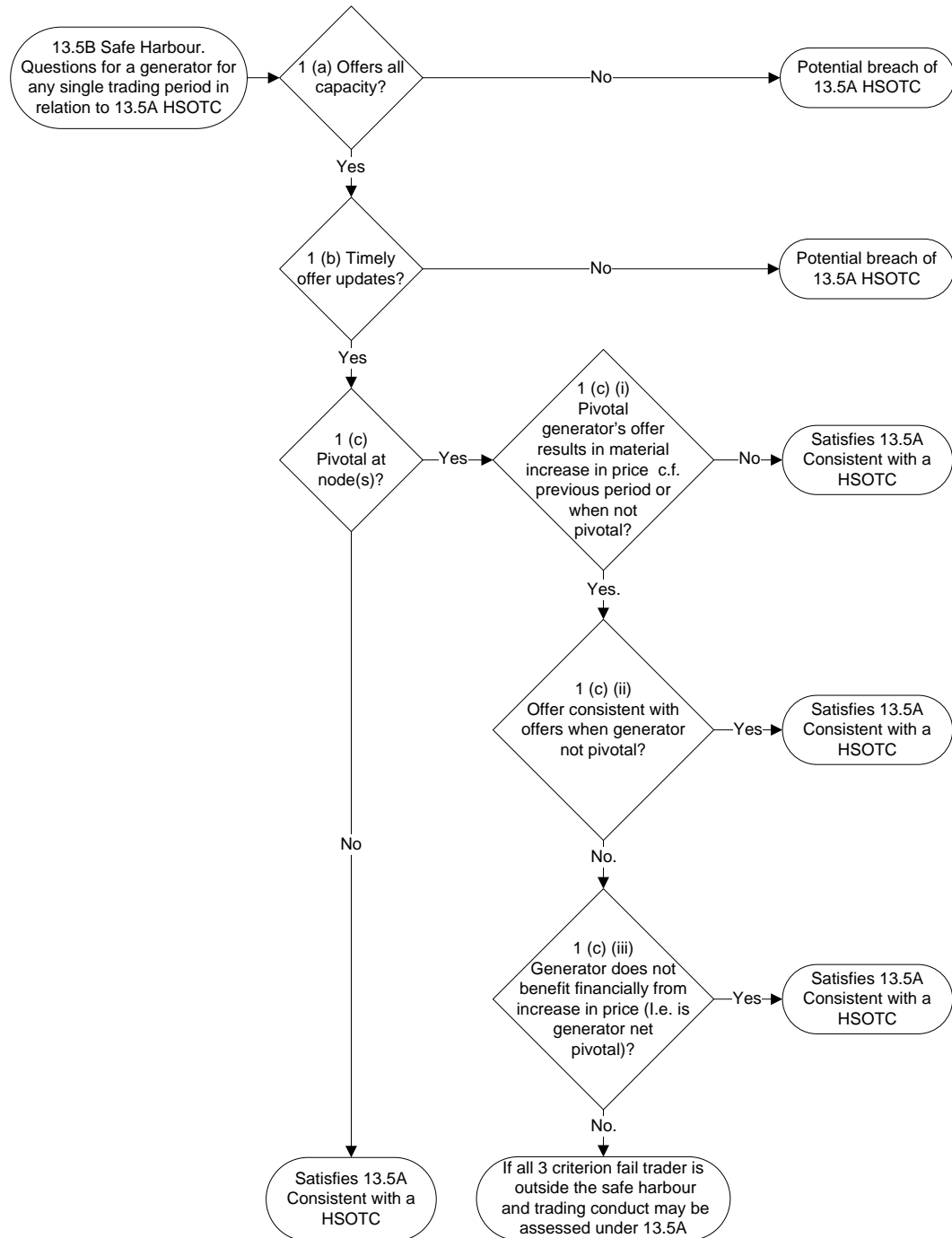
The three HSOTC tests are as shown in Figure 3 below. The tests are that:

- the generator offers all capacity
- makes timely offer updates
- if the generator is pivotal, it faces three more tests. These tests are whether:
  - (a) the generator’s offers result in a material increase in price at the node where the generator is pivotal
  - (b) the generator’s offers are consistent with offers when/where they are not pivotal
  - (c) the generator benefits financially from the price outcome.

---

<sup>21</sup> Electricity Authority, (18 February 2014) *Improving the efficiency of prices in pivotal supplier situations*, Consultation Paper, page 11.

Figure 3 Flow diagram showing the workings of Clause 13.5A and 13.5B



## 3.2 The reasons given for different test

While the Authority accepted the WAG’s analysis and indicated it considered its decisions were in keeping with the WAG recommendations, the third condition set by the Authority (which appears as the sub tests at 13.5B(1)(c)) is different from the third principle proposed by the WAG. Table 2 shows the difference in approach:

**Table 2 Comparison of WAG and Authority third condition**

	WAG Proposal	Authority decision
Safe harbour principle 3	Price and quantity pairs in offers are not materially different between adjacent trading periods, except where there is a bona fide physical factor that alters the participant’s capability to generate electricity	There are three ways to comply: (a) market price does not increase materially as a result of the supplier’s offers when a supplier is pivotal or (b) offers when a supplier is pivotal are generally consistent with offers when it is not or (c) the supplier can demonstrate it has not benefited financially.

In adopting its different principle, the Authority considered that it was “based on the approach recommended by the WAG”; it also noted that it agreed with the WAG rationale that principle should “reduce the scope for suppliers to modify their offers markedly across adjacent trading periods, solely because they expect to be pivotal in one of the periods.”<sup>22</sup>

However, the Authority considered that the principle as proposed by the WAG could have impacted more widely than intended because:<sup>23</sup>

- it was framed in terms of changes to offers regardless of any effect on market prices
- it would deny safe harbour to pivotal suppliers whose retail and hedge sales exceed generation volumes and “have no incentive to raise prices”.

The Authority considered that under its wording:

- pivotal suppliers would not be constrained from making material changes to their offers per se, but only if the offer behaviour results in a material increase in prices
- a supplier that regularly offers ‘last resort’ plant at high prices would qualify for the safe harbour

<sup>22</sup> Electricity Authority, (18 February 2014) *Improving the efficiency of prices in pivotal supplier situations*, Consultation Paper, paragraphs 4.9.2.

<sup>23</sup> Electricity Authority, (18 February 2014) *Improving the efficiency of prices in pivotal supplier situations*, Consultation Paper, paragraphs 4.9.4.



- suppliers would have a more objective criterion (not benefiting financially) and need not be concerned about the meaning of “material price increase” and “comparable trading periods”.

In its 2014 decision paper, the Authority concluded that the Code amendment described above would:<sup>24</sup>

*promote the Authority’s statutory objective because it provides long-term benefits to consumers. Consumers will benefit because it will reduce the incidence of inefficiently high prices in pivotal supplier situations. This, in turn, will help to:*

- a) support competition in hedge and retail electricity markets*
- b) support innovation*
- c) prevent inefficient investment.*

---

<sup>24</sup> Electricity Authority *Improving the efficiency of prices in pivotal supplier situations* Decision paper 4 June 2014

## 4. Design of the safe harbour rule

---

### 4.1 Opportunism and safe harbours

The safe harbour rule is important to reducing the social costs of potential opportunistic behaviour. In his landmark book, *The Economic Institutions of Capitalism* (1985), Oliver Williamson distinguishes opportunism from “simple self-interest”. He refers to opportunistic behaviour as “self-interest seeking with guile.”<sup>25</sup> Opportunistic behaviour in a transaction might involve “the incomplete or distorted disclosure of information, especially calculated efforts to mislead, distort, disguise, obfuscate, or otherwise confuse.” Individuals cannot always be assumed to keep their promises, to fulfil their obligations, and to respect the interests of their trading partners, unless “safeguards” are in place. The task of economic organization (in this case, the rules of the electricity market) is, in Williamson’s terms, to “organize transactions so as to economize on bounded rationality while simultaneously safeguarding them against the hazards of opportunism.”

Whether it is useful in economics to distinguish opportunistic behaviour from other forms of self-interest remains a subject of debate in the economics literature.<sup>26</sup> The key issue is that contractual, or trading, hazards arise in the absence of safeguards. When considering the safeguard provided by the HSOTC rule, we use the term ‘opportunistic’ behaviour to include the following forms of behaviour which market operators typically conclude undermine the integrity of the market and are welfare reducing:

- abuse of market power in specific circumstances
- market manipulation

In section 5 we discuss guidelines for interpreting the HSOTC rule to protect participants from opportunistic behaviour while allowing participants to trade in their self-interest. This section discusses the safe harbour provisions which allow participants to trade with confidence.

### 4.2 A safe harbour in the long-term interest of consumers

The safe harbour rule is important to reducing the social costs of potential opportunistic behaviour. These costs have two distinct components:

- One set of costs concerns the net social costs of any opportunistic price increase and the private measures taken to defend against (or respond to) those inefficient prices.

---

<sup>25</sup> Williamson, Oliver (1985), *The Economic Institutions of Capitalism*, page 49.

<sup>26</sup> See for example, Peter Klein, <https://organizationsandmarkets.com/2006/10/06/does-transaction-cost-economics-need-opportunism/>

- The second set is the costs of operating the enforcement system. These costs include the costs to the Authority and market participants of any investigation. Importantly, the social cost of the enforcement system also includes the cost of errors and private measures to defend against or avoid being exposed to errors (such as altering what would be efficient offers into the market).

An efficient safe harbour rule would minimise the sum of these costs by:

- permitting (providing a safe harbour to) actions which can generally be presumed to be in the long-term interest of consumers – this presumption avoids raising costs in the wholesale market unnecessarily
- exposing to the HSOTC rule, and hence the possibility of investigation, actions which can generally be presumed to not be in the long-term interest of consumers, except in specific circumstances (which would be considered in any investigation).

### 4.3 Safe harbours in electricity markets when electricity is storable

Electricity markets in general, and markets with storable electricity (hydro generators with storage, and grid scale batteries) in particular, have special features which impact the opportunities, incentives and methods of exploiting or efficiently curbing market power. These features influence the social costs which need to be balanced in the design of a safe harbour rule and include:

- Most purchasers of electricity on the wholesale market (currently) have little ability to respond to a short-term price spike, and hence most purchasers are vulnerable to any opportunistic behaviour by suppliers (for most residential consumers these costs are smoothed through retail tariffs); allowing purchasers to be exposed to price spikes (from opportunistic behaviour) is unlikely to be in their long-term interests.
- There is potential for ‘missing money’; this is the concept that some means of generating electricity needs to be available to meet short-term peaks in demand (or shortages in the usual means of supply); the price paid for that short period of operating must be sufficient to compensate the owner for keeping the means of generation available, otherwise it will not be kept available and the reliability with which demand can be met would be threatened.<sup>27</sup>
- The price which is reasonable for consumers to pay for this last resort generator (the phrase used by the WAG) is not observable in hydro-based systems or in systems with grid scale batteries; the marginal costs are close to zero and the main determinant of an efficient price is the opportunity cost of releasing water or electricity from the battery, and this opportunity cost depends upon expectations of the future (inflows, demand, generation, etc.).<sup>28</sup>

---

<sup>27</sup> See for example, Michael Hogan, (2017) *Follow the missing money: ensuring reliability at least cost to consumers in the transition to a low-carbon power system*, *The Electricity Journal* 30 92017) 55 – 61.

<sup>28</sup> See for example, Luiz Rangel (2007?), *Competition policy and regulation in hydro-dominated electricity markets*, University of Auckland Energy Centre.

- Any price cap, or rule which impedes pricing in one period, potentially affects the entire equilibrium pricing distribution in electricity markets where hydro power is a major source (or where battery storage becomes a major source). This is because a price cap / rule which impedes pricing in a future period alters the opportunity cost of water in periods where the cap is not ‘apparently’ binding, and hence potentially alters offer strategies and prices in all periods.<sup>29</sup>

Designing a safe harbour rule which balances these costs is made more difficult as the magnitude of the cost will be affected by the circumstances and may have a skewed distribution. For example, an enforcement system which dulled incentives to provide last resort generation might potentially have a very high cost to consumers, whereas uncorrected opportunistic behaviour in a single trading period may have a negligible impact.

## 4.4 The WAG’s principle 3 recognised these features

Principle 3 recommended by the WAG recognised the particular features of our hydro-based wholesale electricity market. By constraining *offers* by a pivotal supplier to not being materially different from adjacent trading periods, the rule created a safe harbour in which:

- the price and quantity pairs offered were constrained by the competitive conditions in the market when the supplier was not pivotal (and not some administrative or artificially determined view as to what prices should be)
- the constraints applying to offers in the pivotal period would be informed by the most current available market information as factored into the offers in the adjacent trading periods
- last resort generators could structure their offers so as to make a return sufficient to keep that means of generation available to the market.

In particular, the rule proposed by WAG explicitly accounted for the prudent and established market practice for dispatching hydro generation. Prudent hydro operators plan ahead their use of water through the daily cycles hoping to optimise reservoir levels and expected prices whether they are pivotal or not. Typically, having planned the optimal and most likely dispatch of its plant, the operator has the ability to bring generation forward at short notice for reliability purpose i.e. if the balance between supply and demand tightens. The practice for hydro operators in New Zealand is to offer their full capability but to price water they are reluctant to use in the current period well above clearing prices. That high priced tranche of generation capability equates to last resort generation at that point in time. This practice, of identifying the full capability of the system in the offer stack, is desirable and consistent with the objective of having an informed market and hence an efficient, secure and reliable system.

---

<sup>29</sup> Alfredo Garcia, James Reitzes, Ennio Stacchetti, (2001), ‘*Strategic Pricing when electricity is storable*’, Journal of Regulatory Economics 20:3 223-247.

As WAG showed in its illustration reproduced in Figure 2 above, this prudent and established practice for hydro operators would not fall foul of its principle 3, even if subsequent to the offer an increase in demand or a short fall in generation by other parties meant the last resort generation was called to operate. The incentive to make that last resort generation available would have been maintained as the supplier could price last resort generation at an amount which compensates it sufficiently for making the generation available. These desirable objectives would have been achieved while preventing the supplier from asking more for that last resort generation than it seeks in adjacent trading periods (where, in the WAG’s conceptualisation, the supplier is not pivotal and its offers are constrained by market conditions).

## 4.5 The unintended change by the Authority

Although the Authority considered its approach was in keeping with the WAG recommendations, the test applying to pivotal suppliers is in fact quite different from the WAG’s proposal in terms of the offer strategies it permits and the incentives it creates on suppliers. A supplier in a pivotal position could find itself outside of the safe harbour where:

- it had not changed its offers to take advantage of being in a pivotal position – that is, it had not acted opportunistically, but an increase in demand or a short fall in generation by other parties meant the last resort generation was called to operate (the scenario shown in Figure 2 above) and as a result market prices increased
- the generator had priced its last resort generation to provide a reasonable return on its investment and obtained that financial benefit from the higher market prices
- it could not show that its offer was consistent with offers when it was not pivotal, possibly because it had modified its strategy in the hope of not breaching the above two criteria or for some other, non-opportunistic, reason.

Because the generator would be outside of the safe harbour, any investigation would task the Authority with then evaluating whether the generator’s behaviour was consistent with a high standard of trading conduct. The shift in focus inherent in the Authority’s phrasing of the safe harbour – a shift from the behaviour of the supplier to assessing market outcomes – likely colours any investigation of whether the offer was consistent with a HSOTC.

We only have two instances of the rule being applied so we have limited information on how the Authority interprets what constitutes a HSOTC.

In its May 2017 decision<sup>30</sup> the Authority expressed the view that Meridian fell outside the safe harbour (clause 13.5B) on June 2 2016 in trading periods 36 and 38 when prices were higher than prices in adjacent trading periods (the view was ultimately not tested because the Authority decided not to refer the matter to the Rulings Panel). The Authority then expressed the view that Meridian had failed the HSOTC in 13.5A in those two trading periods. Although not part of the Authority’s formal decision, in the cover letter conveying to Meridian the Authority’s view and decision not to refer the matter to the Rulings Panel,

---

<sup>30</sup> Notification of the Authority’s decision under regulation 29 of the Electricity Industry (Enforcement) Regulations 2010

the Authority's Chair observes "Meridian was pivotal at the time and final prices in the South Island in the range of \$3,000 to \$4,600 per MWh resulted that had no relation to scarcity." The Authority also observes that "The high standard of trading conduct provisions were introduced to improve the efficiency of prices in pivotal situations...".

One possibility is that having established that Meridian was outside the safe harbour the rationale for the finding in respect to 13.5A was that price outcomes in the specific trading periods assessed were viewed by the Authority as inefficient. However, it is not clear from the Authority's decision as to whether it concluded that prices were inefficiently high or the basis on which any such conclusion might have been reached. The Authority does observe that they "would have expected Meridian to have covered its risk using other available risk management products or if it chose not to do that then bear the cost of the risk if it eventuates." The Authority does not comment on when a supplier might become responsible for market outcomes as opposed to its offers or how that might fit with clause 13.5A(2)(a) which provides that the rule applies when the generator "submits or revises an offer".

This set of consequences places both the Authority and the supplier in an invidious position:

- a supplier preparing offers for last resort generation in advance cannot be confident as to what the price outcomes of those offers will be as it does not know if that generation would be called or if it would be pivotal when asked to generate or whether in the circumstances the Authority would view the prices as artificially high
- the Authority cannot be confident that any particular price for last resort generation is inefficiently high as the efficient price is not observable; the efficient price is the opportunity cost and this depends upon the expectations of the generator and marginal demand.

In the Mercury decision of 31 October 2017<sup>31</sup> the Authority did not give reasons for its decision not to refer to the Rulings Panel its own 26 May 2017 allegation that Mercury had breached a HSOTC (by withdrawing reserve offers on 8 December 2017). The Authority observed that "In all the circumstances of the matter..." it had decided not to proceed.

We discuss the application of the HSOTC rule further in section 5 below.

## 4.6 The reasons given by the Authority for changing the test

With the benefit of hindsight, the reasons given by the Authority for replacing the WAG's recommended principle 3 with the tests described above do not seem strongly connected either to its problem definition nor its objectives.

Firstly, the Authority considered that framing the test in terms of material changes in prices, rather than changes in offers, would narrow the application of test as it would allow the

---

<sup>31</sup> Electricity Authority, *Notification of the Authority's decision under regulation 29 of the Electricity Industry (Enforcement) Regulations 2010*, 31 October 2017

supplier to change its offers when pivotal as long as the offer change did not materially increase prices.<sup>32</sup> However:

- it is not evident that the test was narrowed by the Authority's change, as the supplier must seemingly now consider situations in which it does not alter its offers but prices might change because of factors outside of its control (and it may be unaware of those factors until after the event)
- the WAG proposal did not preclude a supplier from changing its offers when pivotal, but would cause its clusters of offers to come under scrutiny where something untoward occurred which caused the Authority to investigate, in most cases that would be an otherwise unexplained change in price
- the WAG principle focused on the problem identified by the Authority (and confirmed in the analysis by WAG) of generators altering offers to take advantage of being pivotal; a test of whether there was a material change in a pattern of offers between adjacent trading periods is a narrower test than whether a material increase in prices occurred (which necessarily leads to a consideration of the total set of influences on those prices).

Secondly, the Authority considered that its change would provide a safe harbour to suppliers that have no incentive to raise prices because their retail or hedge sales exceed their generation; that is, to suppliers that are gross pivotal but not net pivotal. However:

- as the WAG observed unless a supplier's retail and hedge sales have fixed prices and are long-term, a supplier is likely to prefer higher spot prices in a pivotal situation because those higher prices would presumably support higher annual average prices and, as a result, potentially higher contract prices in the future. The Authority's test would allow a safe harbour for a generator that did alter its offers when pivotal, as long as its generation matched its purchase commitments (i.e. retail sales plus hedge commitments) in that trading period.,
- if last resort generation is to be offered to the market, it must be compensated for being available. Under our energy only market, that compensation occurs through wholesale prices (as well as financial contracts). The Authority's drafting removed a safe harbour provision for these suppliers, regardless of their offer behaviour.

## 4.7 Safe harbour rule can be improved for long-term benefit of consumers

When assessed against the test for an efficient safe harbour rule of minimising the sum of the costs of potential opportunistic behaviour and enforcement costs, there is clearly room to improve the current rule. The current rule would permit opportunistic behaviour by a generator that did alter its offers when pivotal, as long as its generation matched its purchase commitments (i.e. retail sales plus hedge commitments), while it would subject to investigation a generator that did not change its offer in circumstances where wholesale prices jumped because of some other event.

---

<sup>32</sup> Electricity Authority, (18 February 2014) *Improving the efficiency of prices in pivotal supplier situations*, Consultation Paper, paragraphs 4.9.4.

### 4.7.1 Reinstate the WAG recommended principle 3

The HSOTC rule would be improved by replacing the Authority's three tests which apply when a supplier is pivotal, with a rule applying principle 3 (in place of 13.5B (1) (c)) as recommended by the WAG. That is, a pivotal supplier would be deemed to be compliant with the HSOTC rule where:

*its price and quantity pairs in offers are not substantially different between the adjacent trading periods, except where there is a bona fide physical factor that alters the gross pivotal supplier's capability to generate electricity between those periods.*

To recognise the reality that in some areas of the New Zealand market, a specific generator is often pivotal, the test should also require that the generator's price and quantity pairs are not substantially different from the offers of other last resort generators made during periods those generators are not pivotal. That is, the generator had not altered its offers substantially from adjacent trading periods, and its offers were not substantially different from the offers of the other last resort generators made during competitive conditions.

As a result we also propose that the safe harbour provision has the following test added to it:

*its offer price is not substantially different from the offers of other last resort generation made during periods those generators are not pivotal.*

Specifying the safe harbour offer price by reference to the offers in the market when those generators are not pivotal, means the offer price would reflect the market's view of the opportunity cost of last resort generation which is available to suppliers ex ante when preparing offers and to the Authority in any ex post review. As this reference price is an element of the safe harbour, a supplier would retain the ability to offer a higher price if it considers a higher price is necessary in the circumstances, but would do so in the knowledge that it would be moving outside the safe harbour and become subject to the HSOTC rule (discussed in section 5).

This approach is similar in concept to that adopted in electricity markets governed by the United States Federal Energy Regulatory Commission (FERC). The ISO-NE, PJM, MISO, NYISO and CAISO all implement a form of pivotal test. Offers by a supplier or suppliers (CAISO and PJM, for example, operate a 3 pivotal supplier test) in a pivotal situation are assessed against a "reference price" for that supplier and the original offer amended to the reference price if it exceeds the reference price by a set margin. The ISO-NE, MISO, and NYISO have a preferred option of calculating the reference price from the offers of the supplier over a period of time when market conditions are competitive. PJM and CAISO have a cost based calculated, adjusted for "opportunity costs" such as fuel or permit restrictions.<sup>33</sup>

In the New Zealand context, as the reference price would define a safe harbour, and opportunity cost is difficult and contentious in a hydro based system (and a strength of the market is the difference in views as to the opportunity cost at any point in time) a simple

---

<sup>33</sup> For an explanation of the calculation of the reference prices in the US markets see Federal Regulatory Energy Commission, Price Formation in Wholesale Electricity Markets: Staff Analysis of Energy Offer Mitigation in RTO and ISO Markets, October 2014, Appendix A1 – A 16.



system of setting the reference price from offers of other last resort generators made during periods those other last resort generators are not pivotal would seem to strike the balance of protecting consumers and allowing the market to operate efficiently.

This change would advance the Authority's statutory objective because:

- it provides for suppliers of last resort to be compensated for making generation available, as long as the prices offered do not exceed those offered in periods in which the supplier is constrained by the competitive conditions in the market – a supplier cannot alter its offer simply because it is pivotal without being able to justify that its offer remains consistent with a HSOTC
- neither the Authority nor suppliers need to second guess as to what prices might be efficient, when supply is constrained relative to demand
- all participants in the market (purchasers and suppliers) can have confidence that the prices that might prevail in pivotal periods would be no higher than prices in periods when suppliers are not pivotal (except where higher prices can be justified on investigation as being consistent with the HSOTC rule)
- suppliers have a clear rule, ex ante, as to what offers are acceptable during periods they become pivotal.

## 4.8 A note on the first principle

The Authority adopted into its HSOTC test the first principle recommended by the WAG that all generating capacity expected to be physically available is offered when a plant has been committed to generate. The WAG explained, and the Authority agreed, that this rule was directed toward precluding the deliberate withholding of capacity.

We doubt the principle, and the rule adopted by the Authority, has any effect on the deliberate withholding of capacity. This is because capacity is withheld from a market in economic terms either by removing the capacity or by increasing the offer price – the physical withdrawal of capacity or an increase in the offer price has exactly the same effect in terms of raising market prices. This economic equivalence has recently been recognised in amendments to the Commerce Act to clarify the “price fixing” means arrangements which explicitly set the price in the market and arrangements that agree the quantity offered to the market (so as to fix the price).

In our view, the criterion should be viewed as directed towards improving the information available in the market. There are benefits to all participants, and to the system operator, from understanding the available capacity in the market and the price points at which that generation would become available. We do not see a need to change this aspect of the HSOTC, though would encourage the Authority to recognise the economic purpose of the provision.

## 5. Interpreting and applying the HSOTC

---

### 5.1 A high standard of trading conduct

#### 5.1.1 Standards apply where bright line tests not practical

A supplier is not in breach of the Code by an action which takes it out of the safe harbour. However, once outside the safe harbour, a supplier is no longer deemed to have met the requirement that “its conduct in relation to offers and reserve offers is consistent with a high standard of trading conduct.”<sup>34</sup> Its offers are therefore potentially subject to investigation as to whether they met this requirement.

Most rules in the Code express precisely what a participant can and cannot do. However, the HSOTC rule is expressed in terms of a broad standard of behaviour. Precise rules are efficient where it is possible to stipulate required behaviour in advance. Standards are necessary where it is not practical to specify behaviour in advance, or where the application of the rule may depend on the circumstances, and the interpreting body must determine after the event whether the behaviour met the rule.<sup>35</sup> The road code, for example, prohibits dangerous driving without attempting to specify all possible forms of driving dangerously. The HSOTC rule is considerably more difficult to comply with. It prohibits the making of offers that are not consistent with a high standard of trading conduct without attempting to specify **any** possible types of trading conduct that might be considered to be ‘not high’ or to otherwise provide any guidance on this issue (contrast the UTS rule in clause 5.1(2) of the Code which contains a non-exhaustive list of examples that may amount to an undesirable trading situation). Further, there is no commonly accepted meaning for the words ‘high standard of trading conduct’ in electricity markets or other markets we have researched.

Although it may not be practical to write bright line tests to govern all possible actions, the literature and experience from other markets would allow a set of tests to be created for interpreting whether a particular action complies with a high standard of trading conduct. These tests could be applied by a market participant ahead of time when developing their own policies or composing trading strategies. The same tests could be used by the market regulator to assess trading conduct after the event.

To develop these tests, we outline high level principles and review the expression and application of trading conduct tests in other markets.

---

<sup>34</sup> Clause 13.5A (1).

<sup>35</sup> Robert Cooter, Thoms Ulen, “*Law and Economics*” University of Illinois, 5<sup>th</sup> ed, 2007, p359.

## 5.1.2 General principles for interpreting standards

A HSOTC rule is, as the name implies, concerned with conduct. Behavioural standards are akin to the “front page test”. This test is often associated with questions of ethics for high profile people in business or public office. The question is one they should ask themselves before taking action: “how would this look on the front page of the [insert local newspaper]?” The question serves as a reminder to pause before the event and ask whether the action someone is about to take is one that could withstand publicity and scrutiny; that is, the scrutiny of appearing on the front page of the newspaper.

The front page test is analytically useful because it encourages individuals and organisations to think about how their actions might look to the outside world even if they follow the bright line rules. People tend to rationalise their actions, usually by starting their analysis with what they want to do and then reasoning backward to justify that course of action. This test turns that reasoning around and accounts for how the outcome might look ahead of time.

The concept of interpreting conduct developed in the economics literature from the perspective of informed stakeholders led to a test for interpreting standards or imputing undefined terms. Professor Cooter, of Berkeley University, phrases the test as follows: “Impute the terms to the contract that the parties would have agreed to if they had bargained over all the relevant risks.”<sup>36</sup> In his influential book, *Economic Analysis of Law*, Judge Richard Posner summarised this economic approach as follows:<sup>37</sup>

*And both tort and contract problems can be framed as problems in the definition of property rights ... The definition of property rights can itself be viewed as a process of figuring out what measures the parties would agree to, if transaction costs weren't prohibitive.*

Hence, a broad standard can be interpreted by figuring out what measures the parties to the transaction would have agreed to had circumstances allowed for those negotiations.<sup>38</sup> This approach, to interpreting a standard, accords with the overarching purpose of an organised market of facilitating exchange.<sup>39</sup>

## 5.1.3 Standards protect integrity of trading processes

Taken as a whole, the rules of an organised market intend to give those who trade on the exchange confidence in the reliability of the transactions executed on the exchange.<sup>40</sup> In the absence of the organised markets, transacting parties would need to address issues of integrity and moral hazard through costly bilateral negotiations and long-term contracts. In

---

<sup>36</sup> Robert Cooter, Thoms Ulen, “Law and Economics” University of Illinois, 5th ed, 2007, p 221.

<sup>37</sup> Richard Posner, *Economic Analysis of Law*, (Boston: Little Brown), 4th ed. 1992: p 252-53.

<sup>38</sup> This concept of evaluating outcomes against outcomes that might result from a willing and informed buyer transacting with a willing and informed seller underpins other standards, for example, the IASB rules in account for hedges.

<sup>39</sup> This concept of evaluating outcomes against outcomes that might result from a willing and informed buyer transacting with a willing and informed seller underpins other standards, for example, the IAS 39 in accounting for hedges.

<sup>40</sup> Lester G Telser and Harlow N, Higinbotham, “Organized Futures Markets: Costs and Benefits”, *Journal of Political Economy* 85, no. 5 (1977): p. 973.

common with contract law, a fundamental function of market rules is to deter opportunistic behaviour and obviate costly self-protective measures. The rules of an organised market protect the integrity of the price discovery and settlement processes and thereby facilitate transactions.

Standards of conduct on market participants in relation to trading behaviour are common to many forms of organised markets to help maintain the integrity of the market. Behaviour standards apply in situations where participants may be otherwise compliant and able to say “we followed the rules” but have still broken a level of acceptable behaviour in that market.

## 5.2 Examples from other markets

### Examples from financial markets

Examples from financial exchanges include prohibitions against misleading statements and trading actions that may mislead or deceive. These prohibitions typically include actions that might result in a false or misleading expectation of the settlement price and opportunistic behaviour where participants have created an illusion that differs from the fundamentals of the market and have done so for their own profit.

We know from behavioural economics that such strategies rely on successfully duping the crowd into thinking the market is in different circumstances than are the case. In the context of stock markets studies have been done to characterise the behaviour and see where the line between acceptable behaviour and unacceptable behaviour lies:<sup>41</sup>

*US case law has established a four part test for manipulation involving ability, intent to deceive, causation and artificiality (Johnson, 1981). Across a number of jurisdictions, arguably the two most important elements, and often the most difficult to prove, are artificiality and intent. Artificiality can be with respect to trading activity (e.g., creating the appearance of more trading than what would naturally take place), or price (e.g., altering the price by raising or depressing it). Intent distinguishes manipulative from non-manipulative trading.*

Broadly speaking, case law establishes that market manipulation involves actions or trades undertaken with the intent of forcing a price to an artificial level, inducing other people to trade, or deceiving others. Artificial prices are defined as a “price which does not reflect the basic forces of supply and demand”.<sup>42</sup>

### 5.2.2 Examples from commodity markets

The deepest literature on market conduct focuses, unsurprisingly, on the US markets. In that jurisdiction, the tests are relatively settled<sup>43</sup> and continue to be confirmed in decisions by

---

<sup>41</sup> Talis J. Putnins Stockholm School of Economics in Riga Market Manipulation: A Survey Article in Journal of Economic Surveys April 2011.

<sup>42</sup> See for example, in the United States, *Cargill v Hardin* 452 F.2d 1154 (8<sup>th</sup> Cir. 1971), 1163, or in Australia, *Director of Public Prosecutions (Cth) v JM* [2013] HCA 30

<sup>43</sup> An oft cited and seemingly seminal decision is: *Cox In re* [1986-1987 Transfer Binder] Comm. fut. L. Rep. (CCH) 23,787 9CFTC July 15, 1987.

the United States Supreme Court.<sup>44</sup> The conceptual approach is broadly the same as occurs in financial markets. The tests are used to establish whether the conduct falls sufficiently short of expected standards that it should be prohibited (as opposed to defining what must be done to satisfy a high standard of trading conduct). The tests are generically described as tests for “market manipulation” and require that:

- the accused had the ability to influence market prices
- the accused specifically intended to do so
- artificial prices existed
- the accused caused the artificial price.

As with tests in the financial markets, the focus of these tests are on the explicit actions taken by entity – in short, the concern is where a market participant intentionally causes artificial prices. There are strong parallels with the pivotal supplier situations which WAG had identified (prior to its report) as raising concerns; that is, where there had been a marked change in the structure of the offer prices/quantities by the pivotal supplier between adjacent trading periods without an apparent underlying change in the supplier’s circumstances (see discussion at pages 6 and 11 above).

### 5.2.3 Electricity markets

Our research to date has identified only NordPool as containing a rule expressed in a similar manner to New Zealand’s HSOTC. NordPool imposes a general good conduct rule applying to all markets it operates and requires that:<sup>45</sup>

*No Market Conduct Party shall employ unreasonable business methods when carrying out Trading, and shall always use its best efforts to act in accordance with good business practice.*

Additional behaviour rules apply to products traded with delivery in Norway or to participants with facilities in Norway. This includes the requirement that:

*Any engagement in or attempt to engage in, Market Manipulation on the Physical Markets shall be prohibited.*

The United States markets include market power mitigation rules (as discussed above) and rules against market manipulation (discussed below). The US markets are also subject to an energy price cap of \$1,000 / MWh.

Most markets contain rules which require offers to reflect plant availability – this is particularly the case with capacity markets where participants have received a payment to have plant available. Requirements for changes to offers within a defined period (so-called gate closure) to reflect some underlying change in the physical circumstances are also common place. However, with the exception of Nordpool, we have not identified a

---

<sup>44</sup> Anthony Di Placido v Commodity Futures Trading Commission, Supreme Court of the United States, No. 09-669, available at: <http://www.justice.gov/osg/briefs/2009/0responses/2009-0669.resp.pdf>

<sup>45</sup> Market Conduct Rules, schedule 5 Nord Pool AS.

requirement that suppliers make offers “consistent with a high standard of trading conduct” or similar language.

We note though that:

- all of the markets considered impose explicit price caps (calculated, it would seem, on the basis of thermal generation costs)
- several jurisdictions operate capacity markets and the market rules constrain offers to reflect marginal costs (calculated, it would seem, on the basis of thermal generation costs).

The scope of this report, and our research, is to consider whether the existing HSOTC rule and its associated safe harbour provisions can be improved. Our report does not compare the HSOTC approach with other possible options to limit opportunistic behaviour such as explicit price caps. However, we did not identify any lessons from the literature or experience of other markets which would suggest the Authority should reconsider its decision to accept the broad approach recommended by the WAG. While generic price caps may limit the potential for opportunistic behaviour, they are also likely to constrain genuine price discovery and exemplify issues of ‘missing money’ to the long-term detriment of consumers – it is noteworthy that the organised commodity and financial markets (whose longevity extends to centuries compared to the two decades of organised electricity markets) do not impose crude price caps.

Internationally no clear single approach emerges regarding how to approach a ‘market behaviour rule’ in electricity markets, as some jurisdictions include a failure to take an action (such as not amending an offer when a plant is no longer available) as a behaviour that might be scrutinised by the regulator, whereas others focus only on the actions taken by participants, and others place greater emphasis on market outcomes than participant behaviours. The same applies in other sectors such as finance and there are lessons that can be taken for the New Zealand Electricity Market.

### **5.3 Our proposed approach to assessing trading conduct**

Our review of market conduct rules in a number of markets, and reflecting on the general principles for interpreting standards, leads us to propose a series of tests of behaviours that can be applied to action and commitments made ex ante. The idea of a list of considerations in the Code is similar to that provided in the UTS. However the UTS lists examples of matters the Authority will consider while we propose a list of matters that will be considered for HSOTC. Below we set out a number of such possible tests as they might be applied to the HSOTC rule in the form of seven questions.

We anticipate that, if the Authority followed this path the tests would be refined. The use of tests along these lines would give participants, investigators and the Authority more certainty about what is expected over and above adherence to all of the bright line rules in the Code. Our suggested tests take the form of the following seven questions which participants could ask themselves before the event knowing that these are the questions the Authority would ask after the event:

- Has the participant firm provide guidance to its traders on the need to ensure its composition of offers and bids is consistent with a HSOTC?
- Has the participant complied with all of the provisions in the Code other than the HSOTC rule?
- Is the activity under investigation lawful? (We propose including this in a list of matters the Authority will consider rather than sitting on its own as 13.5)
- Can the participant provide a rational reason for the composition of their offers?
- Was the action or sequence of actions the generator took misleading or deceptive, or likely to mislead or deceive? (We propose including this in a list of matters the Authority will consider explicitly in relation to HSOTC in addition to the general provision in 13.2)
- Can the behaviour be characterised as manipulative or attempted manipulative trading activity? This test would look at three indicators:
  - (a) Illicit purpose;
  - (b) Uneconomic conduct; or
  - (c) Conduct inconsistent with market fundamentals
- Is confidence in, or the integrity of, the wholesale market undermined by the conduct?

We explain the reasoning for these questions below.

### **5.3.1 Are high standards of conduct embedded within the firm's practices?**

There is a clear expectation in New Zealand financial markets that an interpretation of what constitutes high standards of conduct is codified within participant firms. For example, the Financial Markets Authority, formed in 2011, developed a Code of Ethics in 2013 and published *A Guide to the FMA's view of conduct* in February 2017.<sup>46</sup> The guide states:

*High standards of conduct support fair, efficient and transparent markets – and the confident participation in those markets of businesses, investors and consumers. This benefits our economy and all New Zealanders.*

Accordingly the FMA guide focuses on ensuring that providers:

- can demonstrate how boards and senior management communicate to the business an expectation that these outcomes are delivered, and how they are assured that this is done
- can clearly articulate, and support with examples – potentially including those arising from direct customer feedback or related channels such as mystery shopping or net promoter scores – how their conduct appropriately serves – and balances – customer, business and, where relevant, shareholder interests

---

<sup>46</sup> <https://fma.govt.nz/assets/Guidance/170202-A-guide-to-the-FMAs-view-of-conduct.pdf>

- disclose to investors and the public what they are doing to meet their regulatory obligations and the principles of good conduct.

These developments with the FMA are reflected in other markets and other jurisdictions and lend themselves to application in the New Zealand Electricity Market.

### **5.3.2 Are all other rules complied with?**

Trading conduct rules should be considered after all of the bright line rules have been met, but concerns remain that the purpose of the exchange may have been somehow subjugated. Any investigation or decision could usefully clarify that all of the other rules have been met and that only the possibility of failure to meet a standard of conduct remains.

In many commodity and financial markets several interrelated exchanges operate. For example physical commodity exchanges operate alongside financial derivative markets whose settlement is based in the price of the underlying physical commodity. Often governance and rules lie with completely different parties. These circumstances apply to the New Zealand physical market, FTRs, electricity futures traded on the ASX and bilateral over the counter (OTC) trading amongst New Zealand participants. These circumstances are not unusual. This test is intended to encompass only the rules under the relevant regulator's purview. If the participant is compliant with the relevant rules but the regulator is concerned that they may be in contravention of rules in a different regime the regulator would have to make the observation to the other regime and leave it that regime's compliance conventions.

### **5.3.3 Are the offers lawful?**

Market participants are required to comply with a wide range of laws. For the purpose of trading conduct in a physical electricity market such as the New Zealand Electricity Market it is reasonable to expect that all laws are met including, in particular, competition law as per the Commerce Act 1986.

### **5.3.4 Is there a reasonable rationale for the offers?**

As discussed in section 4.4 an important feature of the New Zealand market is the influence of offer strategies for hydro generators. In particular the practice amongst hydro operators is to price last resort generation so it is available for reliability purposes but would not be dispatched otherwise. Further, that the determination of the value of that last resort generation varies depending on the generators' own generation and retail portfolios and their hydrological situation at any one time. These assessments are made on an ex ante basis and, if not already documented could easily be documented so they could be scrutinised in the event of a claimed breach of the HSOTC rule. This is akin to the use of a bona fide physical factor used to determine late offer changes.

Under this test where a generator is investigated for a breach of clause 13.5A and has been found to be outside the safe harbour as per clause 13.5B they could be required to demonstrate that their actions are of this nature. The alternative is for the rules to include limits on offers which would require the regulator to form a view on what those limits



should be. This was canvassed by the WAG in the original WAG discussion papers.<sup>47</sup> The WAG raised the possibility of Temporary capping mechanism on pivotal supplier offers

*Under this option a temporary price cap would be applied in regions when a generator is 'pivotal', or an offer cap would be applied only when a generator is 'pivotal'. Mechanisms of this broad type are used in some other electricity markets. For example, the PJM market uses the 'Three Pivotal Supplier Test' (TPS). This test is used to determine whether any particular supplier plus the two largest suppliers would be jointly pivotal. If the test result is positive (i.e. they are jointly pivotal), the offer prices for the particular supplier and the two largest suppliers in that region are capped at pre-assessed estimates of their respective short run production costs.*

A temporary capping mechanism would raise a number of design issues, which were discussed at length in the WAG paper. The upshot was the Authority considered the options put to it by the WAG and proceeded to introduce a conduct provision. As regards the idea of a cap they reported as follows:<sup>48</sup>

*3.2.1 After considering submissions, the WAG recommended the Authority should:*

*E. consider other options if these measures don't adequately address concerns – in particular, temporary capping mechanisms on pivotal supplier offers or affected prices, and/or making Transpower responsible for increased spot market costs arising from local pivotal supplier situations during grid outages.*

*3.2.2 In response to the WAG's recommendations, the Authority Board:*

*(iv) [noted] the Authority would not pursue the "other options" as per recommendation E but supported consideration of other options should a conduct provision and principles prove to be unworkable or ineffective.*

We suggest that given the WAG canvassed and dismissed the possibility of a temporary capping mechanism that assessment of the rule includes recognition of the provision of last resort generation from hydro.

### **5.3.5 Are the offers misleading or deceptive?**

There is scope under the market rules for participants to play games with their offers for example by waiting until the last minute before gate closure to change energy and reserve offers. In this way other market participants aren't able to respond to the offer changes. If offers that lead to unexpected outcomes could not be explained in any other way they could fail this test.

The physical spot market is a repeat game effectively running an auction each of 17520 half hours in the year. Any attempt to trick other participants into a particular outcome in a particular half hour could be met with a response by other players if they felt that had been cynically misled. Were that the case the market could descend into a period of disruption.

---

<sup>47</sup> Wholesale Advisory Group *Pricing in Pivotal Supplier Situations A WAG Discussion Paper* 7 March 2013.

<sup>48</sup> Electricity Authority, *Improving the efficiency of prices in pivotal supplier situations Consultation paper*, 18 February 2014.

### 5.3.6 Manipulative or attempted manipulative trading activity

This test asks whether any behaviour, for pivotal and non pivotal suppliers is manipulative or attempted manipulative trading activity in the context of a trading conduct standard.

The Federal Energy Regulatory Commission (FERC) has extensive experience with manipulation in energy markets. In November 2016 they published a white paper that reviewed anti manipulation activity and enforcement over the period from the Western Energy Crisis of 2000 – 2001 (associated with the Enron scandal) through the subsequent adoption of Energy Policy Act of 2005 (EPACT) up to today.<sup>49</sup> The EPACT included an anti-manipulation rule. The white paper observes

*Market manipulation threatens the integrity of energy markets. It does so by its actual consequences—harming consumers, rendering prices and price-setting mechanisms inaccurate and unreliable, interfering with market operations, siphoning money away from market participants who are playing by the rules, and other ills that should have no place in our nation’s energy markets. It also does so by causing entities participating in, benefiting from, or affected by energy markets to lose confidence that markets are working fairly and producing results consistent with market rules and fundamentals.*

*After adoption of the Anti-Manipulation Rule, the Commission started interpreting the new law, applying it to different factual situations, and rendering decisions on the meaning of its various elements. In addition, a few federal courts have issued opinions on the new law. As a result, a law of energy market manipulation has begun to emerge. This developing law is generally consistent with decades of anti-manipulation precedent in the securities and commodities context, with some differences to reflect unique characteristics of the energy markets and the Commission’s obligation to ensure just and reasonable rates in such markets.*

FERC has defined three indicators of manipulation:

- (a) Illicit purpose of conduct e.g., trading in the physical market for the purpose of profit in derivatives.
- (b) Uneconomic conduct e.g., making offers at a loss to impact on a reference price
- (c) Conduct inconsistent with market fundamentals

The White Paper goes to issues that should be addressed in the context of the HSOTC provisions in the New Zealand Electricity Market. The purpose of conduct coming under scrutiny has been a particular focus:<sup>50</sup>

*The Commission considers the purpose of an entity’s actions as a critical factor in determining whether conduct is fraudulent under the Anti-Manipulation Rule. The*

---

<sup>49</sup> Federal Energy Regulatory Commission, (November 2016), *Staff White Paper on Anti-Market Manipulation Enforcement Efforts Ten Years After EPACT 2005*.

<sup>50</sup> Ibid.

*Commission has focused on this factor since issuing Order No. 670, explaining that fraud includes “any action, transaction, or conspiracy for the purpose of impairing, obstructing, or defeating a well-functioning market.”<sup>37</sup> In subsequent orders, the Commission built on this language, making clear that the purpose underlying market behaviour can determine whether that behaviour is fraudulent or lawful.*

It is this aspect that we suggest is underplayed by the HSOTC rule and underplayed by the applications of it.

### **5.3.7 Is the integrity of the market undermined?**

Under our proposed approach, the Authority would ask the questions outlined above in determining whether there had been a breach of HSOTC. As noted above, we derived the tests from our review of market conduct rules in a number of markets, and from reflecting on the general principles for interpreting standards. We believe the tests would provide the Authority with a conceptual net which would catch harmful trading while permitting the market to discover efficient prices and quantities in the long term interest of consumers. Certainly, the concerns which led the Authority to implement the WAG’s recommendations are reflected in the tests.

However, it remains possible for some future trader to devise a form of trading which, in hindsight might be viewed as harmful, but which is not captured by the tests above. As a US Court observed “[t]he methods and techniques of manipulation are limited only by the ingenuity of man”.<sup>51</sup> We do not consider it acceptable that such trader could get a “free pass” just because they discover and engage in a novel, unique form of manipulation.

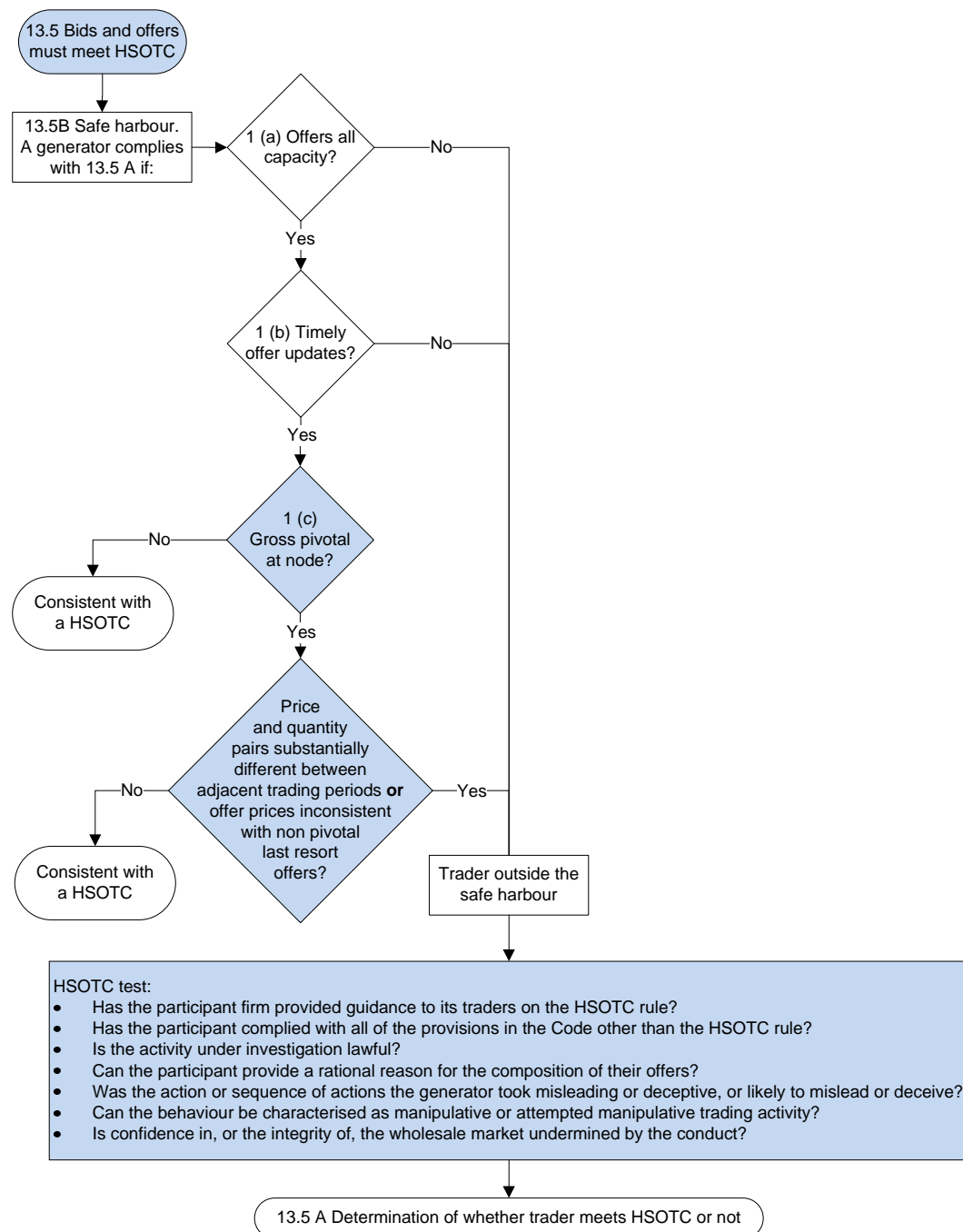
We therefore propose this final test to provide an element of discretion to the Authority after the other tests have been considered. We propose this final discretion bedded in the primary purpose of the HSOTC, which is to protect the integrity of the market.

---

<sup>51</sup> *Cargill v Hardin* 452 F.2d 1154 (8<sup>th</sup> Cir. 1971)

## 5.4 Flow diagram of a better rule

Figure 4 Flow diagram with current rule overlaid by proposed changes giving a rule that satisfies the intent of a HSOTC rule and provides a guide as to what considerations will be given if their trading behaviour comes under scrutiny.



## 5.5 Tests focus on behaviour not outcomes

The emphasis in this list of proposed tests for trading conduct is on behaviour rather than outcomes. If a behaviour is acceptable and the outcomes are not what the Authority wants, it can make its expectations clear or change the rules. For example, the list does not include assessing how participants manage their risk and the tools that they do or do not use. Managing risk is a matter for each participant and the array of techniques available is an issue for market design. If participants are expected to use certain techniques to manage risk and not others this should be codified.

The Authority's view of behaviours is driven by outcomes viewed through its statutory objective. It leads to a strong temptation to consider behaviour through tests such as whether the outcomes are:

- deemed to signal scarcity
- perceived to be the result of innovation
- assessed as creating a useful signal for potential entrants.

These issues may form a useful framework for judging the success of market design but do not inform the Authority on the behaviour of participants as much as the ex ante circumstances in the market and participants' motives.

## Appendix 1: A clearer rule

---

The rule drafted below is based on the combined safe harbour and HSOTC components we propose in our paper. This is not intended to be the finished article and would at the least need to be subjected to a careful legal review if our proposed changes were adopted.

### **13.5A Conduct in relation to generators' offers and ancillary service agents' reserve offers**

- (1) Each generator and ancillary service agent must ensure that its conduct in relation to offers and reserve offers is consistent with a high standard of trading conduct.
- (2) Subclause (1) applies when—
  - (a) a generator submits or revises an offer; or
  - (b) an ancillary service agent submits or revises a reserve offer.
- (3) A generator's or ancillary service agent's conduct in relation to offers and reserve offers is consistent with a high standard of trading conduct if:
  - (a) the generator or ancillary service agent has provided guidance to its traders on the need to ensure offers and reserve offers are consistent with a high standard of conduct;
  - (b) the generator or ancillary service agent's conduct is compliant with all provisions in the Code other than clause 13.5A;
  - (c) the generator or ancillary service agent's conduct is otherwise lawful;
  - (d) the generator or ancillary service agent can provide a rational reason for its offers;
  - (e) the generator or ancillary service agent's conduct is not misleading or deceptive, or likely to mislead or deceive;
  - (f) the generator or ancillary service agent's conduct is not manipulative or attempted manipulative trading activity; and
  - (g) the generator or ancillary service agent's conduct does not threaten confidence in, or the integrity of, the wholesale market.

### **13.5B Safe harbours for clause 13.5A**

- (1) A generator complies with clause 13.5A if—
  - (a) the generator makes offers in respect of all of its generating capacity that is able to operate in a trading period; and
  - (b) when the generator decides to submit or revise an offer, it does so as soon as it can; and
  - (c) in the case of a generator that is pivotal,—
    - (i) the generator's price and quantity pairs in offers are not substantially different from those in offers made in the trading periods preceding those in which the supplier is alleged to have breached clause 13.5A (unless there is a bona fide physical reason for the difference); and
    - (ii) its offer prices are not substantially different from the offers of other generators made during periods those other generators are not pivotal.
- (2) A generator does not breach clause 13.5A only because the generator does not comply with subclause (1).

*[13.5B(3) and (4) which duplicate the above for ancillary service agents are omitted here].*