

TRANSPower NEW ZEALAND LIMITED

# Submission to the Electricity Authority on Scarcity Pricing – Proposed Design

*April 2011*



**TRANSPower**



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**T R A N S P O W E R**

## **1. Introduction**

### **1.1 Purpose of this document**

This is Transpower New Zealand Limited's (Transpower's) submission on the Electricity Authority's 28 March 2011 consultation paper *Scarcity Pricing – Proposed Design*.

## **2. Executive summary**

### **2.1 Context**

There has been growing concern within the electricity industry that spot prices are suppressed when non-price mechanisms are used to curtail demand. Non-price mechanisms include requests for voluntary conservation by consumers or, in more extreme cases, mandatory demand restraint through co-ordinated rolling power outages. During supply emergencies, it is important that spot prices provide efficient signals; otherwise efficient operation of or investment in last resort generation and/or voluntary demand-side response will be undermined.

In September 2009, the Electricity Commission (Commission) sought feedback on whether scarcity pricing or compulsory contracting mechanisms should be pursued as possible means of addressing these concerns. Based on submissions received, and its own analysis, the Commission elected to pursue the development of scarcity pricing mechanisms. The Electricity Authority (Authority) took over this project in November 2010.

The consultation paper sets out the proposed elements that make up the design of the intended scarcity pricing regime. The Authority intends to incorporate feedback received into its development of a detailed design proposal, including proposed Code amendments, to be released for consultation in mid-2011.

### **2.2 Key points**

In summary, Transpower's key points in respect of the consultation paper are that:

- without change to the market design, security of supply cannot be expected to improve;
- in principle, we support the introduction of a scarcity pricing regime to address the degradation of security of supply that results from the price suppression that occurs when non-price mechanisms are used to curtail demand;
- in the first instance, the scarcity pricing regime must address the limited incentives for last resort generation unit commitment that exist within the context of the self commitment market design.

Short of changes made to the Whirinaki offer last year, the threat of price suppression has on several occasions led to inadequate generation offers to meet demand, but, more frequently, the inadequate provision of last resort generation, necessitating an over-reliance on forced load shedding for contingency management;

- secondly, the scarcity pricing regime must address the inefficient utilisation of voluntary conservation through calls for public conservation;
- while price suppression has yet to lead to under investment, the potential for this outcome exists within the current market design.

In summary, the key points with respect to the proposed design are:

- Transpower supports the introduction of a price floor during emergency load curtailment. A floor price of \$10,000/MWh is an appropriate starting value;
- Transpower supports the retention of the existing instantaneous reserve shortfall scarcity pricing regime;
- Transpower supports the introduction of a price floor during rolling outage load curtailment. A floor price of \$3,000/MWh is an appropriate starting value;
- Transpower supports the introduction of a price floor during public conservation campaigns. A floor price of \$500/MWh is an appropriate starting value;
- the adoption of a minimum geographic threshold of an island for scarcity pricing should be a transitional step to a smaller geographic threshold;
- the need for a transition period is unclear, since the intent to introduce a scarcity pricing regime has been known for at least 18 months and it will be at least another 12 months before the regime is introduced;
- the Electricity Industry Participation Code 2010 (Code) establishes the operational relationship between participants and is the only basis available for the physical co-ordination of the power system. Suspending the offer and dispatch process as defined by the Code is not an option;
- price capping mechanisms are little more than a means of compensating for a lack of hedge liquidity, rather than a design requirement for a scarcity pricing regime. Rushing to compensate for a lack of liquidity may stifle an improvement in liquidity; and
- Transpower supports at least a 3 year review of prices and a 12 month notice of change.

The introduction of a scarcity pricing regime to address price suppression must, by definition, place upward pressure on prices. Any price movement should equate to the “missing money” (revenue) required to underpin the retention of existing plant and or fund investment in new peaking plant (assumed to be capable of contributing during dry years). A very simplistic assessment of the revenue required to retain Whirinaki and one of the Huntly units would result in a price movement of less than 0.15c/kWh, at least a third of which would be offset by a reduction in the Authority levy. We note that when Whirinaki’s offer price was changed, as a proxy for a scarcity price floor, there was no discernable change in wholesale prices.

### 3. Discussion

#### 3.1 Underlying problem

Price suppression during conservation campaigns and rolling outages, or a mismatch between those incurring costs and those gaining benefits, has been identified as an issue, and comment sought on it, in a number of papers over the last 18 months, including:

- *Improving Electricity Market Performance Volume one: Discussion paper – A preliminary report to the Ministerial Review of Electricity Market Performance by the Electricity Technical Advisory Group and the Ministry of Economic Development, August 2009*<sup>1</sup>; and
- *Consultation Paper – Scarcity Pricing and Compulsory Contracting: Options*, prepared by the Electricity Commission, October 2009<sup>2</sup>.

The former paper took the underlying problem for granted and sought comment on the recommendation that “a floor on spot prices during any public conservation campaign or during any enforced power cuts in a dry year of, say \$500/MWh [for the former and] \$1,000 – \$5,000/MWh [for the latter].” The Electricity Technical Advisory Group (TAG) and the Ministry of Economic Development (MED) summary of submissions<sup>3</sup>, indicated:

- some support for the introduction of floor pricing;
- many submitters supported administered VOLL (value of lost load) pricing during forced outages, but opposed floor prices during a public conservation campaign; and
- most submitters opposed the recommendation of a floor price during conservation campaigns on a range of grounds including:
  - risk of upward pressure on prices;
  - disincentive for new retail entry;

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<sup>1</sup><http://www.med.govt.nz/upload/69725/volume1.pdf>

<sup>2</sup><http://www.ea.govt.nz/document/2423/download/our-work/consultations/priority-projects/scarcity-pricing/>

<sup>3</sup> *Improving electricity market performance – Summary note on recommendations taking account of submissions*, October 2009 <http://www.med.govt.nz/upload/71002/Summary-note.pdf>

- penalising of spot purchases by major users during a conservation campaign in the absence of a more liquid hedge market, which may affect export orders; and
- there should be a cap on prices, not a floor.

TAG and MED responded to the last point with the comment that “much of the opposition was on the grounds that a floor price would result in inefficient/uneconomic despatch of generation (including uniform nodal prices) and would reward generators for running out of water where prices would otherwise be lower than the floor. *However, inefficient despatch is not expected to be an issue.*”

The Electricity Commission’s summary of submissions in the latter paper on the underlying problem definition included the observation that “[m]ost parties agreed with the consultation paper that the ability of participants to shift the costs of some actions onto others was the key underlying problem”<sup>4</sup>.

In summary, there appears to be general agreement that a problem exists with the current market design. Whether the issue is expressed in terms of price suppression or the opportunity to shift costs, both concerns suggest a limitation in the current market design. The disagreement is largely about what might be the best solution.

Transpower agrees with the price suppression effects set out in Section 4.2. Unit commitment issues arising from price suppression are well documented: raised by the System Operator in 2009 and recognised by the industry and the Commission leading to the 2010 winter initiatives work stream<sup>5</sup>. The Commission discussed, at length, the unit commitment issue in the 2009 Annual Security Assessment<sup>6</sup>. Transpower also notes the potential improvement in unit commitment incentives from the addition of scarcity pricing, indicated in Part 3 of the Scarcity Pricing Technical Working Group paper *Scarcity pricing – derivation of scarcity price values*<sup>7</sup>.

Elements of price suppression were observed during the 2003 and 2008 conservation campaigns. Even if the commercial benefit of price suppression were not exploited in these years, the conditions for commercial opportunity were certainly demonstrated.

Transpower concurs with evidence set out in Section 4.3 and notes that the Review of 2008 Winter<sup>8</sup> recommended “*the market rules be changed to ensure decision-makers face the cost to consumers of any forced demand curtailment*” (emphasis added). Transpower also concurs, in

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<sup>4</sup><http://www.ea.govt.nz/document/9174/download/our-work/consultations/priority-projects/scarcity-pricing/submissions/>

<sup>5</sup>Resultant changes include the Jul 2010 change to instantaneous reserve pricing and re-offer of Whirinaki at a proxy scarcity price.

<sup>6</sup><http://www.ea.govt.nz/document/2818/download/our-work/consultations/security-of-supply/annual-security-assessment-2009/>

<sup>7</sup> <http://www.ea.govt.nz/document/11764/download/our-work/advisory-working-groups/spdbtg/21Oct10/>

<sup>8</sup> <http://www.ea.govt.nz/our-work/consultations/security-of-supply/review-of-2008-winter/>

respect of conservation campaigns, with Appendix C, paragraphs 12 and 13, that consumer compensation only affects retailers and *“does not affect the incentives that other wholesale market participants might have to lobby for public conservation campaigns”*.

The consultation paper is largely silent on whether the “missing money problem” just applies to investment in new capacity or extends to the retention of existing assets. The problem applies to both. At least one generator has signalled its intention to reduce the availability of thermal capacity because of inadequate revenue.

The revenue uncertainty created by the “missing money problem” may not be the only barrier to new investment. The lead time for a decision to retain an existing asset is much shorter than the lead time to commission a new investment, possibly a few weeks versus the better part of two years, if not longer. Further, the decision to retain an existing asset need only be for an incremental period (e.g. the next six months or the end of next winter), whereas a new investment decision is a multi-year commitment.

Historically, regulatory uncertainty has been seen as part of the security of supply “market design”. It is not clear that this threat is as effective now as it may previously have been. Participants are demonstrably testing the boundaries of the current market design.

The underlying problem has been recognised, refined over at least two years, and documented. Without a change to the market design, security of supply cannot be expected to improve.

## **3.2 Scarcity pricing: proposed elements**

### **3.2.1 Capacity shortage**

The introduction of a price floor, or a cap and collar, is necessary to avoid price suppression when non-price mechanisms are used to curtail demand.

Transpower agrees with the analytical approach used in Appendix E. Lack of access to the detailed input assumptions and models limits our ability to provide specific comment on the suggested value of \$10,000MWh. Qualitative evidence would support this conclusion. Comparison with international data, other than the Australian NEM, is of limited value without quantifying the difference in policy choices, regulatory regimes, and market designs.

In principle, a floor price is consistent with an uncapped energy only market. However, if the Authority is to include quantitative price safeguard mechanisms, a floor price, rather than a price cap, may create an opportunity to game the incidence of a quantitative safeguard. The potential for such outcomes needs to be explored.

The price floor, or a cap and collar, should be subject to regular review.

### 3.2.2 AUFLS event

The argument is that a scarcity price signal should not apply to an AUFLS demand curtailment, because generators are precluded from reacting to the price signal and this may result in a sub-optimal outcome. The Authority is about to introduce dispatchable demand and continues to promote demand response to price. Absent a scarcity price, dispatchable demand or price responsive demand may not be accessed during the restoration process.

The argument also seems to assume that all fast start generation has offered or will be priced to clear, following an AUFLS event in support of timely restoration of demand. A Grid Emergency Notice issued by the System Operator, following an AUFLS event, allows un-offered generation to be made available. The dispatch of such plant, in favour of a longer restoration period through the utilisation of slower start generation, may require generator confidence about receipt of an adequate price in a reduced demand situation. The application of a scarcity price would support this outcome.

Even if a scarcity price were not to apply immediately following an AUFLS event, provision should be made to transition to a scarcity pricing situation once excess demand curtailed has been restored. Without a scarcity price, prices would be depressed and at odds with the intention of the scarcity pricing regime.

### 3.2.3 Instantaneous reserve shortfall

As noted by the consultation paper, the changes introduced into the market in 2010 have largely addressed the potential for price suppression during instantaneous reserve (IR) shortfalls. These changes should be retained.

The existing IR shortfall pricing regime is based on IR offers. While energy and IR prices are co-optimised, the resultant prices may not reflect the cost of the increased risk of shortage.

It is suggested that, in the event of an IR shortfall, a virtual IR provider is factored into the pricing solution with the IR price of the virtual IR provider set to the higher of the highest dispatched IR or energy offer or a pre-defined IR shortage function. There seem to be several significant limitations to this approach:

- choosing an IR shortage function would seem to be extremely complex, since the function is seeking to lift the co-optimised energy and IR price to ensure that the co-optimised price reflects the increased risk of shortage. It seems inevitable that the function will be an over or underestimate, given the uncertainty of energy offers in a given trading period, let alone across trading periods;
- on the surface, it would seem to create an incentive for IR and energy to out bid each other to capture the associated producer surplus; and

- there seems to be little certainty that the resultant co-optimised price outcome, from either the highest energy or IR price setting the IR price of the virtual IR provider, will bear any relationship to the risk of shortage.

This issue needs further consideration. Absent further work, retention of the status quo should be preferred. While the price outcome of the status quo may not reflect the risk of shortage, there is little chance that the price will be a multiple of the risk price.

The IR shortfall scarcity pricing regime and any safeguard should be unbundled. A safeguard need only apply when there is a mathematical oddity in pricing, not in all instances as suggested by the steps in paragraph 107.

### **3.2.4 Rolling outages**

The need for rolling outages should be strongly discouraged. The consequence for consumers of rolling outages is significant and should only arise as a result of a significant natural event, not including an abnormally dry year. The minimum consequence of employing rolling outages needs to be clear. A price floor of at least \$3000/MWh is appropriate.

The paper demonstrates the risk management option offered through hedging. If the scarcity pricing regime does not create an incentive for participants to hedge, the value of the regime will be significantly diminished. Concerns such as hedge liquidity should be addressed in parallel. Watering down the scarcity pricing regime should not be seen as part of the solution to a lack of hedge liquidity. In effect, the scarcity pricing regime should incentivise the voluntary implementation of contracting levels akin to a compulsory capacity regime.

The price floor should be subject to review on a regular basis.

### **3.2.5 Public conservation campaigns**

#### ***Disclosure mechanism***

It is generally accepted that greater information disclosure will contribute to the operation of efficient markets. Whether information disclosure will compensate for commercial exposure in a shortage situation is unclear. The suggestion of private benefit has not appeared to influence behaviour in the recent past. Behavioural changes as a result of information disclosure should not be relied upon.

#### ***Financial Mechanism***

The requirement for retailers to pay compensation during public conservation campaigns does not remove the incentives for some to lobby for conservation campaigns – Appendix C, paragraphs 12 & 13. There needs to be a mechanism to compensate for the remaining

incentives to pursue voluntary demand curtailment through conservation campaigns.

The financial mechanism proposed in paragraphs 145 – 147 seems to be some form of a light-handed capacity mechanism and is not supported.

The public conservation campaign recently introduced by the Authority will result in campaigns being called at hydro storage levels much lower than those that triggered calls by the industry in 2003 and the Commission in 2008. The options available to participants when conservation campaigns are called now are few and the consequences for all need to be clearly reflected in spot prices.

Rolling outages should be rare. If rolling outages are rare it would not be surprising to find that many discount the threat of a more severe floor price.

For these reasons, Transpower supports the imposition of a price floor when a public conservation campaign is called. An initial value of \$500/MWh seems appropriate. This should be reviewed on a regular basis.

### **3.2.6 Geographic trigger for scarcity prices**

The geographic trigger for scarcity prices should at least be intra-island. The proposed choice of an island assumes transmission constraints are not relevant but HVDC constraints are. This choice also assumes that the location of generation is not critical to security, which it often is.

The argument, in paragraph 157, that the grid owner is not exposed to nodal pricing consequences for its actions is misleading. Both regulators and the grid owner should factor intra-island, if not nodal, scarcity prices into transmission investment decisions. There is also a requirement for the grid owner to consider the potential costs when planning outages.

The financial transmission right (FTR) design should support scarcity pricing design choices. The consultation paper assumes the converse. Ideally, the FTR design should match the scarcity pricing design choices, but, at the very least, should not constrain the scarcity pricing design.

If a two island pricing regime were to be adopted initially, this should be clearly recognised as a starting point and the approach adopted when implementing the regime should at least be expandable to intra island regions.

### **3.2.7 Transition**

The market design limitations resulting in price suppression were raised in the review of winter 2008<sup>9</sup>. Scarcity pricing has been under discussion since at least late 2009. The intention of the Authority, and

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<sup>9</sup> <http://www.ea.govt.nz/our-work/consultations/security-of-supply/review-of-2008-winter/>

its predecessors, to include scarcity pricing in the market design is not new. Completion of the design and implementation will take at least another 12 months. All of these points make the need for a transition period questionable.

As noted, the Whirinaki offer is a proxy for a capacity price floor of \$5000/MWh. Prices in the region of \$10,000 – \$12,000/MWh for a floor or cap have been under discussion for some 12 months. Anecdotal evidence following recent price spikes indicates hedges can be struck within a week if needed. It is becoming more and more apparent that the argument for a transition period is no more than an argument to defer the introduction of scarcity pricing.

That said, it is acknowledged the commissioning of the new HVDC Pole 3 will be a significant change to the transmission system. As with all large complex projects, uncertainty surrounds its completion. This would suggest that the capacity short price component of the scarcity pricing regime should come into effect some three months after the successful commissioning of Pole 3.

The price floors proposed in the event of a conservation campaign, and in the event of rolling cuts, are in the region of opportunity values for primary fuel (thermal and hydro) should primary fuel become constrained to the point that either conservation measure is required. If this is the case, these values will have already been factored into risk positions adopted by participants. If these values have not been factored into risk positions it is not clear why consumers should continue to bear the costs of the associated security risks.

In summary, price floors in the event of public conservation campaigns and rolling outages should come into effect as soon as they can be implemented within market systems. The capacity shortage price component of the scarcity pricing regime should come into effect three months after the successful commissioning of Pole 3. However, if there were to be a phased transition, the whole package should be introduced. The transition period should be short, along the lines of:

- an initial capacity scarcity price floor of \$5000/MWh (the same as the current Whirinaki offer); then
- step the capacity scarcity price floor to \$10,000/MWh on 1 November 2012 (after 12 months – the proposed notice period for change);
- a public conservation campaign price floor of \$500/MWh introduced on 1 November 2012 (after 12 months – the proposed notice period for change);
- a rolling outage price floor of \$1500/MWh introduced at the earlier of the implementation of outcomes of the fundamental review of prudential requirements or 1 November 2012; and then
- step the rolling outage price floor to \$3000/MWh on 1 November 2013.

### **3.2.8 Ongoing reviews**

An effective scarcity pricing regime should be a cornerstone of the market design for security of supply. To ensure the design remains effective and current, reviews should be completed within three years of the publication of the previous review. The initial three year period should commence on 1 November 2011.

Potential changes will be foreshadowed during the review process and notice of change should be no longer than 12 months. Provision should be made for shorter notice periods if a change is critical to maintaining security standards.

### **3.3 Analysis**

Other than results stated in Appendix F, there is no quantitative analysis presented that substantiates the qualitative claims in the consultation paper. Members of the technical working group assisting the Commission and Authority have articulated the need for detailed quantitative analysis of the pricing regime, both from the perspective of an individual trading participant, to assess incentives, and from a macro perspective. The offer to provide model inputs and models at the forum six business days before submissions are due is too little too late. The next consultation paper must provide detailed input assumptions and substantial qualitative analysis of the proposed regime.

In principle, Transpower supports the introduction of a scarcity pricing regime. In theory, a favourable macro benefit is expected. What is missing is any insight into whether, at a participant level within the New Zealand market, the incentives exist to deliver the claimed benefits. As commented above, the floor prices should be in the region of the opportunity value of primary fuel when supply is restricted. The reaction of participants to the introduction of these prices suggests that this is not the case which, of itself, seems to support the analysis and provides some confidence that the anticipated behavioural change will occur.

However, to help the Authority achieve its objectives, the Authority must make quality analysis available to stakeholders.

The analysis of the proposed regime against the Authority's statutory objectives appears rational but needs quantitative support.

On the question of other reasonably practicable options, the introduction of a scarcity pricing regime would not seem to preclude the subsequent introduction of a capacity mechanism at a later date. However, it is far less clear that, having introduced a capacity mechanism, it would be possible to move to a scarcity pricing regime. This suggests that, while a capacity mechanism may be a practical option, early adoption would preclude a scarcity pricing regime. Introducing a scarcity pricing regime is seen as a path of least regret.

Scarcity Pricing Technical Working Group papers provide greater insights into the benefit of a capacity price, cap and collar or floor, than the cost benefit analysis presented in Appendix F. The observed behavioural changes, since the change to Whirinaki's offer price, with no discernable change in energy prices, point to a capacity scarcity pricing regime delivering a favourable benefit.

By definition some upward pressure on price must be expected. Section 4 describes the incidences of price suppression and potential consequences. Simplistically, the lower bound on the impact on the static price for peaking capacity must be the revenue required to meet the fixed costs (capital and operating and maintenance) of existing generation (including fixed fuel costs) that would otherwise be retired, and/or to facilitate investment in new peaking capacity. The quantum of the price impact will be dependent on the capacity required. A very rough estimate of the average price implication of retaining Whirinaki and one of the Huntly units would be less than 0.15c/kWh<sup>10</sup>.

The price floors proposed in the event of a conservation campaign and in the event of rolling cuts are in the region of opportunity values for primary fuel (thermal and hydro), should primary fuel become constrained to the point that either conservation measure is required. If this is the case, these values should have already been factored into risk positions adopted by participants, so the price impact should be minimal.

### **3.4 Safeguard mechanisms**

The need to establish a retailer of last resort regime to manage the consequences of a retailer becoming insolvent has been outstanding since 1999. The introduction of a scarcity pricing regime adds to the need to resolve this issue. As the market design stands, generators are exposed to such failure and could be expected to price this risk into generation offers. Generators' ability to quantify this risk must be limited, affecting any risk premium included in offers. The design of the scarcity pricing regime should not be compromised through the lack of a retailer of last resort regime.

As mentioned in paragraphs 121 – 125, but not in paragraph 260, a first principles review of the settlement and prudential arrangements needs to be undertaken and or completed with some haste. The review should consider shortening the settlement period to manage the quantum prudential cover required, and cash flows.

It is far from clear that the exercise of an undesirable trading situation (UTS) can be used or ought to be used as a safeguard mechanism. High prices need not threaten trading. The test must be "an exceptional circumstance that threatens, or that may threaten, trading". The

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<sup>10</sup> Capital cost of a 150MW open cycle gas turbine, at capital cost of \$1000/kW, an 8% rate of return plus Whirinaki O&M cost. O&M cost of Huntly unit assumed to be \$15m p.a. Finance cost, 8%, of holding cost of 1m tonnes of coal (valued at \$125/t). Estimate has been rounded up for error. Annual demand assumed to be 40TWh.

definition of exceptional circumstance would appear to be very narrow, has never been used, and should not be relied upon.

The Code is the only basis for the physical co-ordination of the power system. Generation offers, prices and quantities, are a key input into the scheduling and dispatch process. The Code defines the relationship between participants, including the System Operator. The emergency measures within the Code are dependent on the established relationships. Without an alternate definition of relationships and co-ordination processes, suspending trading as defined within the Code is not an option.

The need for price capping mechanisms would seem to be a response to a perceived lack of liquidity in the hedge market rather than a design requirement for a scarcity pricing regime. If there were a liquid market for a sufficiently diverse range of hedge products, participants ought to be able to manage any price risk.

The question is whether liquidity for a diverse range of products is feasible in a market of the size that exists in New Zealand. Experience may suggest not. However, rushing to compensate for a lack of liquidity may stifle an improvement in liquidity. The Authority should pursue initiatives to enhance hedge liquidity before introducing price capping mechanisms in the scarcity pricing design.

As indicated by the consultation paper, the design of capping mechanisms in an energy constrained market is complex and likely to undermine desirable incentives. If capping mechanisms are necessary, they should be temporary and kept under constant review.

### **3.5 Responses to specific questions**

Summary responses to the specific questions raised by the Authority are set out in the Appendix to this submission.

## APPENDIX: Consultation Questions

No.	Question	Response
Q 1	To what extent is price suppression an issue with current pricing arrangements?	<ul style="list-style-type: none"> <li>• This issue has been well canvassed.</li> <li>• We agree with the price suppression effects set out in Section 4.2.</li> <li>• Part 3 of the Scarcity Pricing Technical Working Group paper<sup>11</sup> <i>Scarcity pricing – derivation of scarcity price values</i> indicates the improvement in unit commitment incentives from the addition of scarcity pricing.</li> <li>• The missing money problem applies to retention of existing assets as well as the investment in new capacity. At least one generator has signalled the intent to reduce the availability of thermal capacity because of inadequate revenue.</li> <li>• Elements of price suppression were observed during conservation campaigns in 2003 and 2008. Even if the commercial benefit of price suppression were not exploited in these years, the conditions for commercial opportunity were certainly demonstrated.</li> <li>• Unit commitment issues are well documented: raised by the SO in 2009; recognised by the industry; recognised by the EC in the 2010 winter initiatives work stream. The in the 2009 Annual Security Assessment, the Commission discusses at length the unit commitment issue.</li> </ul>
Q2	To what extent do you agree that the spot price suppression will adversely affect security of supply?	<ul style="list-style-type: none"> <li>• Well canvassed.</li> <li>• We concur with the evidence set out in Section 4.3.</li> <li>• Note the Review of 2008 Winter<sup>12</sup> <i>“the market rules be changed to ensure decision-makers face the cost to consumers of any forced demand curtailment”</i> (emphasis added).</li> <li>• Conservation campaign – we agree with Appendix C, paragraphs 12 and 13 – consumer compensation scheme only affects retailers and <i>“does not affect the incentives that other wholesale market participants might have to lobby for public conservation</i></li> </ul>

<sup>11</sup> <http://www.ea.govt.nz/document/11764/download/our-work/advisory-working-groups/spdbtg/21Oct10/>

<sup>12</sup> <http://www.ea.govt.nz/our-work/consultations/security-of-supply/review-of-2008-winter/>

No.	Question	Response
		<p><i>campaigns”.</i></p> <ul style="list-style-type: none"> <li>• The missing money problem is potentially a barrier to new investment and new entrants. The lead time for a decision to retain an existing unit is much shorter than the lead time for new investment. Further, a decision to retain an existing asset need only be for an incremental period (the next six months, the end of next winter) whereas a new investment decision is a multi-year commitment.</li> </ul>
Q3	<p>What is your assessment of historic security of supply performance, and the likely future performance under current arrangements?</p>	<ul style="list-style-type: none"> <li>• Refer to the response to questions 1 and 2.</li> <li>• Without changes to the market design, security of supply cannot be expected to improve.</li> <li>• Historically, regulatory uncertainty has been seen as part of the security of supply “market design”. It is not clear that this threat is as effective as it may have been. Participants are demonstrably testing the boundaries of current market design.</li> </ul>
Q4	<p>What is your view of the proposed price floor to be applied in emergency load curtailment?</p>	<ul style="list-style-type: none"> <li>• The introduction of a price floor is necessary to avoid price suppression when non-price mechanisms are used to curtail demand. The suggested value of \$10,000/MWh is an appropriate starting value. We agree with the analytical approach in Appendix E.</li> <li>• This value should be subject to regular review.</li> <li>• In principle, a floor price is consistent with an uncapped energy only market. However, if the Authority is to include quantitative price safeguard mechanisms, a floor price, rather than a price cap, may create an opportunity to game the incidence of a quantitative safeguard. The potential for this outcome needs to be explored.</li> </ul>
Q5	<p>What is your view of the proposed treatment of load curtailment in AUFLS events?</p>	<ul style="list-style-type: none"> <li>• Likely to be sub-optimal. The absence of an appropriate piece may delay access to fast start generation and or demand side response.</li> <li>• Provision should be made to transit to a scarcity pricing situation once excess demand curtailment has been restored.</li> </ul>
Q6	<p>What is your view of the proposed approach to pricing during IR shortfalls?</p>	<ul style="list-style-type: none"> <li>• We agree with the retention of the existing instantaneous reserve (IR) shortfall scarcity pricing regime.</li> </ul>

No.	Question	Response
		<ul style="list-style-type: none"> <li>• The IR shortfall scarcity pricing regime and safeguard should be unbundled.</li> <li>• A safeguard need only apply when there is a mathematical oddity in pricing not in all instances of IR shortfall as suggested by the steps in paragraph 107.</li> </ul>
Q7	<p>What is your view of the proposed price floor to be applied in rolling outage load curtailment?</p>	<ul style="list-style-type: none"> <li>• We agree with the incidence of a price floor.</li> <li>• We agree with an initial value of \$3000/MWh.</li> <li>• Should be reviewed on a regular basis.</li> <li>• The paper demonstrates well the risk management offered by hedging. If the scarcity pricing regime does not create an incentive on participants to hedge, the value of the regime will be significantly diminished. Concerns such as hedge liquidity should be addressed in parallel. Watering down the scarcity pricing regime should not be seen as a partial solution for lack of hedge liquidity. In effect, the scarcity pricing regime should incentivise the voluntary implementation of contracting levels akin to a compulsory capacity regime.</li> </ul>
Q8	<p>What is your view of the proposed disclosure mechanism?</p>	<ul style="list-style-type: none"> <li>• Information disclosure contributes to the operation of efficient markets.</li> <li>• Whether information disclosure will compensate for commercial exposure in a shortage situation is unclear. The suggestion of private benefit motivations has not appeared to influence behaviours in the recent past.</li> <li>• The suggested information disclosure should be part of a wider consideration of information disclosure.</li> </ul>
Q9	<p>What is your view of these possible financial mechanisms?</p>	<ul style="list-style-type: none"> <li>• The need for a financial mechanism is established in Appendix C, paragraphs 12 and 13.</li> <li>• Transpower supports a floor price mechanism.</li> <li>• The financial mechanism proposed in paragraphs 145 – 147 seems to be some form of a light handed capacity mechanism and is not supported.</li> <li>• We agree with an initial value of \$500/MWh.</li> <li>• Should be reviewed on a regular basis.</li> </ul>

No.	Question	Response
Q10	What is your view of the comparative merits of disclosure versus a spot price floor to address concerns about over-reliance on public conservation campaigns? Is there merit in pursuing both mechanisms?	Refer to the responses to Q8 and Q9.
Q11	What is your view of the proposed approach to imposing a minimum geographic threshold before any scarcity price floor is applied?	<ul style="list-style-type: none"> <li>• Should be regional (intra island).</li> <li>• Island level is short of logic – assumes transmission constraints not relevant but HVDC ones are, and that location of generation is not critical to security, which often it is. Para. 157 states as a reason that the grid owner is not exposed to the nodal pricing consequences of its actions – true, but misleading, as there is a requirement for economic tests of investment and (albeit a simpler one) for outages. Para. 158 implies that the two-node FTR design is driving scarcity pricing design – this is the tail wagging the dog.</li> <li>• If the two island pricing regime is adopted initially, it should be clearly recognised that this is a starting point and the approach adopted when implementing the regime must at least be expandable to intra island regions.</li> </ul>
Q12	What is your view of the preferred approach to transition arrangements?	<ul style="list-style-type: none"> <li>• Scarcity pricing has been under discussion since at least late 2009.</li> <li>• As noted, the Whirinaki offer is a proxy for a capacity price floor. Prices in the region of \$10,000 – \$12,000/MWh for a floor or cap have been under discussion for some twelve months. Other than deferring the need to hedge against the associated risk there is no reason that a capacity price or floor of this quantum should not be set once Pole 3 is commissioned.</li> <li>• The price floors proposed in the event of a conservation campaign, and in the event of rolling cuts, are in the region of the opportunity values for primary fuel (thermal and hydro) should primary fuel become constrained to the point that either conservation measure is required. If this is the case, these values have already been factored into risk positions adopted by participants. If these values have not been</li> </ul>

No.	Question	Response
		<p>factored into risk positions it is not clear why consumers should continue to bear the costs of the associated security risks.</p> <ul style="list-style-type: none"> <li>• If there is to be a phased transition the whole package should be introduced: <ul style="list-style-type: none"> <li>○ initial scarcity price floor \$5000/MWh – same as the Whirinaki offer;</li> <li>○ stepped to \$10,000/MWh after 12 months – proposed notice period for change;</li> <li>○ conservation campaign price floor \$500/MWh on 1 Nov 2012 – proposed notice period for change;</li> <li>○ rolling outage price floor of \$1500/MWh at the earlier of implementation of the outcome of the fundamental review of prudential requirements or 1 Nov 2012; and</li> <li>○ rolling outage price floor of \$3000/MWh from 1 Nov 2013.</li> </ul> </li> </ul>
Q13	What is your view of the proposed approach to review arrangements?	<ul style="list-style-type: none"> <li>• A review to be completed within three years of publication of the previous review.</li> <li>• 12 months' notice of change. Change will be foreshadowed through the review process.</li> </ul>
Q14	What is your view of the proposed changes when assessed against the Electricity Authority's statutory objective?	<ul style="list-style-type: none"> <li>• Analysis of the proposed regime against the Authority's statutory objectives appears rational but needs quantitative support.</li> </ul>
Q15	What, if any, other reasonably practicable options should be considered?	<ul style="list-style-type: none"> <li>• None.</li> </ul>
Q16	What is your view of a capacity mechanism, when assessed against the Electricity Authority's statutory objective?	<ul style="list-style-type: none"> <li>• The introduction of a scarcity pricing regime would not seem to preclude the subsequent introduction of a capacity mechanism at a later date.</li> <li>• It is far less clear that, having introduced a capacity mechanism, it would be possible to move to a scarcity pricing regime.</li> </ul>
Q17	What is your view of the costs and benefits of the proposed changes?	<ul style="list-style-type: none"> <li>• Scarcity Pricing Technical Working Group paper<sup>13</sup> provides greater insights into the benefit of a capacity price, cap or floor, than the cost benefit analysis presented in Appendix F.</li> </ul>

<sup>13</sup> <http://www.ea.govt.nz/our-work/advisory-working-groups/spdbtg/21Oct10/>

- Price effects of Scarcity Pricing.

No.	Question	Response
		<ul style="list-style-type: none"> <li>• Coupled with the observed behavioural changes since the change to Whirinaki’s offer price, with no discernable change in energy prices, point to the benefit of a capacity scarcity pricing regime.</li> <li>• The lack of a detailed description of input assumptions and modelling methodology means it is impossible to comment on the quantum of benefits claimed.</li> <li>• In theory, the macro assessment undertaken in Appendix F is correct. What is missing is any insight into whether, at a participant level within the New Zealand market, the incentives exist to deliver the claimed benefit. As commented above, the floor prices should be in the region of the opportunity value of primary fuel when supply is restricted. The reaction of participants to the introduction of these prices suggests that this is not the case which, of itself, seems to support the analysis and provide some confidence that the anticipated behavioural change will occur.</li> </ul>
Q18	<p>What is your view of the likely impact on prices of the proposed scarcity pricing changes, both in the near term (static effects) and over time (when parties can adjust their plans and behaviour)?</p>	<ul style="list-style-type: none"> <li>• Analysis to address this question should be undertaken by the Authority as part of its cost benefit analysis.</li> <li>• By definition, some upward pressure on price must be expected. Section 4 describes the incidences of price suppression and potential consequences. Simplistically, the lower bound on the impact on the static price of peaking capacity must be the revenue required to meet the fixed costs (capital and operating and maintenance) of existing generation (including fixed fuel costs) that would otherwise be retired and/or facilitate investment in new peaking capacity. The quantum of the price impact will be dependent on the capacity required. A very rough estimate of the average price implication of retaining Whirinaki and one of the Huntly units would be less than 0.15c/kWh.</li> <li>• The price floors proposed in the event of a conservation campaign and in the event of rolling cuts are in the region of the opportunity values for primary fuel (thermal and hydro) should primary fuel become constrained to the point that either</li> </ul>

No.	Question	Response
		<p>conservation measure is required. If this is the case, these values should have already been factored into risk positions adopted by participants so the price impact should be minimal.</p>
Q19	<p>What further pro-competitive initiatives should the Authority be considering at this time?</p>	<ul style="list-style-type: none"> <li>• Establish a retailer of last resort regime.</li> <li>• As mentioned in paragraphs 121 – 125, but not in paragraph 260, undertake a first principles review the settlement and prudential arrangements, including consideration of a shorter settlement period.</li> </ul>
Q20	<p>Do you agree that the undesirable trading situation provisions could be invoked to address an exceptional event, and ensure that scarcity pricing is not applied in an inappropriate situation? If not, what changes should be considered in relation to the undesirable trading situation provisions?</p>	<ul style="list-style-type: none"> <li>• High prices need not threaten trading. The test must be “an exceptional circumstance that threatens, or that may threaten, trading”. The definition of exceptional circumstance would appear to be very narrow, has never been used, and should not be relied upon.</li> <li>• The Code is the only basis for physical co-ordination of the power system. Generation offers, prices and quantities, are a key input into the scheduling and dispatch process. Suspending trading is not an option.</li> </ul>
Q21	<p>What is your view of price capping mechanisms, when assessed against the Electricity Authority’s statutory objective?</p>	<ul style="list-style-type: none"> <li>• The need for price capping mechanisms would seem to be a response to a perceived lack of liquidity in the hedge market.</li> <li>• The question is whether liquidity for a diverse range of products is feasible in a market of the size that exists in New Zealand. Experience would suggest not.</li> <li>• Rushing to compensate for a lack of liquidity may stifle an improvement in liquidity.</li> <li>• Capping mechanisms will be complex and likely to undermine desirable incentives. If capping mechanisms are necessary, they should be temporary and kept under constant review.</li> </ul>