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26 August 2011

John Rampton
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By email: submissions@ea.govt.nz

Dear John

Scarcity pricing proposal fails to address well documented problems

Genesis Power Limited, trading as Genesis Energy, welcomes the opportunity to provide a submission to the Electricity Authority ("**the Authority**") on the consultation paper "Scarcity pricing and related measures – proposed amendments to the Code" dated 13 July 2011.

The Authority's latest proposal differs significantly from that put forward in its April 2011 consultation paper. The Authority has withdrawn its proposals for conservation campaign and rolling outage scarcity pricing, added a price cap to its proposed curtailment price floor and introduced a proposal for a stress test regime. This change of direction is disappointing given that the April proposals were the product of more than two years of development and were fairly well supported in submissions.

The Authority appears to have become overly concerned about the risk of "over-signalling" the value of avoiding non-supply. This is puzzling given the work leading up to the April proposals and given the general point that the economic cost of under-signalling the value of avoiding non-supply is higher than the economic cost of over-signalling.

The Authority has previously identified System Operator interventions that, while sometimes necessary for maintaining operational security, cause price suppression and contribute to under-signalling that undermines long-term reliability. In April, the Authority was proposing scarcity pricing as means to remedy the price suppression that occurs for most of these identified interventions but it is now proposing to allow price suppression to persist for all but a very narrow subset of interventions. We consider that the Authority's proposed price floor will apply in such a limited set of circumstances that it will not materially address cost-shifting and price suppression problems and, as such, will not materially contribute to improving reliability.

The Authority is also proposing to apply price caps during the limited periods when the proposed price floor is in place. We consider that the proposed price caps will further mute the impact of the Authority's scarcity pricing proposal and will heighten the cost recovery uncertainty faced by providers of last resort plant.

The Authority's latest consultation paper also introduces a proposal for a financial "stress test" regime for generators and wholesale market purchasers. The Authority suggests that this regime is in lieu of addressing the price suppression that occurs during public conservation campaigns and rolling outages. We can understand how the proposed stress test regime may slightly alter the political economy of conservation campaigns. However, political economy considerations have already been largely addressed by formalising conservation campaigns and defining deterministic triggers for starting and ending campaigns. We do not believe that it is plausible to argue that a stress test regime will actually address the identified cost shifting and price suppression problems. We do not support the Authority's proposed stress test regime.

We have earlier argued that the Authority's intervention to require compulsory payments to retail customers during public conservation campaigns would be acceptable provided it served as a complement to conservation campaign scarcity pricing. As the Authority is now proposing not to implement scarcity pricing during public conservation campaigns, we consider that the payment regime will have a net detrimental effect on reliability. As described in our earlier submission, the payment regime as a standalone intervention has the effect of penalising retailers that hedge against low hydro supply.

In summary, we support the Authority's proposed curtailment price floor only insomuch as it is a small step towards addressing the well-documented price suppression problems that inevitably cause an under-signalling problem in the wholesale market. We will continue to advocate for a more comprehensive solution to this problem. We oppose the proposed stress test regime because we consider that it will not serve any useful purpose.

The remainder of this submission expands on the preceding points. Our responses to the Authority's consultation questions are set out in Appendix A.

The Authority's proposals are a significant change of direction

The Authority's April proposals were the culmination of years of development work that includes the Electricity Commission's Winter Review Team recommendation that "spot prices during any curtailment [should] reflect the cost of non-supply" to reduce opportunities for cost shifting,[1] the Electricity Commission's market design review project that ultimately rejected capacity market approaches in favour of scarcity pricing, the Ministerial Review that recommended price floors for public conservation campaigns and other emergencies and the Authority's own work.

The Authority's April consultation paper proposed price floors for curtailment, rolling outages and public conservation campaigns. Submitters differed in their level of support or opposition and on their view of the detailed design, but there was broad support from suppliers and Transpower for most of the proposals, as summarised below.

	Curtailment Scarcity Price	Rolling Outage Scarcity Price	Conservation Scarcity Price
Transpower	support	support	support
Genesis Energy	support	support	support
Meridian Energy	support	support	support
Contact Energy	support	support	support
Mighty River Power	support	support	
TrustPower	support		

As the Authority is well aware, the Ministerial Review resulted in an obligation on the Authority to alter the Electricity Industry Participation Code ("**the Code**") to "impose a floor or floors on spot prices for electricity in the wholesale market during supply emergencies (including public conservation campaigns)" by `

[1] Winter Review Team, "Review of 2008 Winter", p49, http://www.ea.govt.nz/our-work/consultations/security-of-supply/review-of-2008-winter/

November 2011 or to explain to the Minister of Energy why it has not done so and what it is proposing as an alternative.[2]

Given the long development path of the April proposals and the level of support from suppliers and Transpower for those proposals, we find it difficult to understand how the current proposals can satisfy the Authority's obligation. The expectations set out in legislation are very clearly stated, and the Authority will need a compelling argument to justify why it has not delivered. In our view, this means the market is likely to face a period of uncertainty for up to two years while it waits to see whether the Minister will decide to step in where the Authority has not.

This is particularly disappointing given that the Authority did have ample time to develop the details of how it would implement scarcity pricing and instead chose to spend most of that time revisiting the policy question.

Under-signalling is a greater concern than over-signalling

The most plausible explanation for the Authority's proposed change of direction appears to be that it has become concerned about the risk of "over-signalling".[3] Our view is that the reverse is more likely, that is, that the proposal will perpetuate an existing "under-signalling" problem. Furthermore, failing to implement the full suite of scarcity pricing proposed in April will result in under-signalling persisting without the backstop of a reserve energy scheme.

The April consultation paper described the three classes of System Operator intervention that lead to price suppression. As has been well documented by now, these price suppression events cause a divergence between who pays (parties that experience an interruption in supply or a call to conserve) and who benefits (parties that are net buyers in the spot market). The net result is suppressed spot prices, suppressed appetite for hedging amongst net buyers (and suppressed incentives more generally to manage supply risks) and inadequate revenue to fund the fixed costs of last resort plant needed to maintain generation adequacy.

The Authority should be more concerned about under-signalling than it is about over-signalling. This is because the economic costs are not symmetric. Poor reliability has high costs that are incurred across the economy. The consequences of over-signalling are generally much less severe:

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[2] Electricity Industry Act 2010, sections 42(1), 42(2)(b) and 42(3).

[3] An alternative explanation is that the Authority is focusing on the retail competition effects of scarcity pricing, however it is difficult to believe that the Authority would put the objective of maximising retail competition *ahead* of ensuring adequate reliability.

- there is some risk that intermittent high prices will lead to an over-investment in generation capacity to take advantage of high returns at times of scarcity. However, long-term investment designed to capture infrequent and unpredictable high price periods is a risky proposition and no generator is likely to bank on a scarcity pricing policy enduring if it is proving to produce inefficiently high average prices; and

- there will be a deadweight loss if some consumption is foregone because of an inefficiently high price. However, this is unlikely to be severe given the inelasticity of demand and the fact that most users are not exposed to short-term price fluctuations. As such, deadweight loses are only likely to occur if average prices rise above efficient levels, which is not a likely outcome of scarcity pricing.

We consider that a more constructive response to possible concerns regarding over-signalling is to use measures such as cumulative price thresholds or other stop-loss mechanisms to provide a soft entry into the full suite of scarcity pricing proposed in April.

Proposed scarcity price fails to address most price suppression events

The Authority is now proposing to allow the price suppression that occurs during rolling outages and public conservation campaigns to persist. The Authority is proposing to address price suppression for curtailment events; however it has limited its proposals to a narrow subset of these events.

The Authority's current proposal means that net buyers will not expect prices to reflect of cost of non-supply and will therefore expect to be able to continue to shift the costs of under-insuring to electricity consumers. The default compensation regime offsets this to some degree, but does not provide revenue to support last resort generation. Instead, as an intervention that does not discriminate between retailers, the default compensation regime imposes costs on most (if not all) providers of last resort generation and does nothing to incentivise individual retailers to manage the risk of scarcity.

The Authority has already intervened to formalise public conservation campaigns with defined triggers and with the System Operator mandated to run any such campaign. These are positive steps, but they do entrench and legitimise the use of such campaigns. It is not controversial that such campaigns will (if they are effective) suppress prices by reducing demand and causing prices to clear at a lower point on the offer stack. The same is true for the operation of the rolling outage regime. The Authority should fully expect market participants to factor such price suppression into their operational, commercial and investment

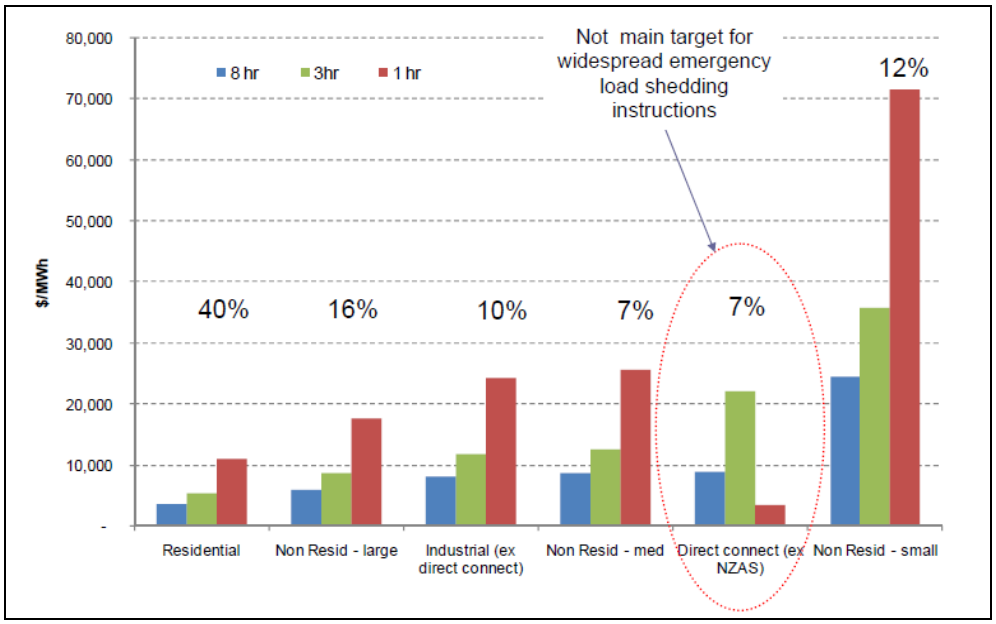
decisions. As a consequence, the Authority should expect the market's ability to manage extreme dry hydro conditions to deteriorate over time.

We are also concerned that most curtailment events, which also suppress prices, will not be addressed by the Authority's proposal. We do not find it reassuring to assume, as the Authority suggests, that transmission investment will eliminate this concern over time.

Price caps exacerbate the problem

We consider that, given the poor information available on the cost of non-supply, price caps are a risky proposition. If caps are set below the average cost of non-supply then they will exacerbate the existing price suppression problems.

The Authority presented the following chart to its Scarcity Pricing Technical Group on 10 August 2011 to illustrate a range of estimates for the cost of non-supply.[4]



The chart clearly indicates that the marginal cost of non-supply can be as high as $70,000 per MWh if small non-residential customers are not supplied for an hour or $35,000 per MWh if they are not supplied for three hours. The weighted average cost of non-supply (excluding direct connect customers) for a one hour curtailment is in the order of $22,000 per MWh.

[4] Presentation titled "Scarcity pricing – revised proposal" deliver to the SPTG11 group on 10 August 2011 (http://www.ea.govt.nz/document/14615/download/our-work/advisory-working-groups/spdbtg/10aug11/). We note that the presentation does not provide any information on the source of the figures presented.

Based on these figures, a cap of $10,000 per MWh would clearly be too low and would risk further under-signalling the cost of non-supply (and hence the value of avoiding non-supply). $20,000 per MWh would be a more appropriate figure to adopt and there could even be justification for taking a conservative approach by adopting a $35,000 per MWh cap.

Stress test regime is not a substitute for scarcity pricing

In April, the Authority consulted on whether an information disclosure regime may be a suitable alternative or complement to scarcity pricing for energy shortages. The Authority is now proposing a financial stress testing regime in lieu of remedying the pricing effects of public conservation campaigns and rolling outages. We do not find this convincing.

The Authority's proposed regime would require participants to model the operational cash flow implications for their business of various spot market prices clearing in the market for various durations. The Authority would collect such information quarterly and publish anonymised results. The Authority hopes that this regime will help it to "deflect opportunistic lobbying" by improving the Authority's information base and that it will also help to raise awareness of, and legitimise, the risk of occasional high prices.

Setting aside the merits of the stress testing proposal, we do not consider that disclosure or stress testing can be a substitute for scarcity pricing. At best, an information intervention may cause some marginal improvement in the risk management practices of less sophisticated market participants and spot-exposed purchasers. However, information disclosure cannot address the fact that prices are suppressed during public conservation campaigns and rolling outages and does not address the consequences of prices systematically failing to reflect the cost of non-supply (or the cost of customers being asked to make emergency conservation efforts).

Stress testing regime does not serve any useful purpose

Stress testing has a long heritage within the practice of financial regulation, particularly with respect to assessing financial system resilience and with respect to overseeing regulated entities in the banking sector. As such, the Authority's proposed use of stress testing to attempt to improve resilience of a physical market and to assess or influence the conduct of firms not subject to entity-level regulation is unusual. Our view is that, as well as failing to address the underlying problem, a stress testing regime will not serve any useful purpose.

Any large market participant for whom electricity is a major business risk is likely to include stress testing within its corporate risk management practices already, and that testing will be defined based on the particular risks that face that business. For example, most generators would model the impact of the failure of a large asset or the disruption of critical fuel supplies. While modelling pricing outcomes would be part of this assessment, it is the effect of losing production capability that drives the analysis.

While the Authority is correct to avoid more prescriptive scenario definitions, it is not clear that a scenario defined in pricing terms would provide a meaningful indication of the financial resilience of any particular firm. More fundamentally, it is not clear that obtaining imperfect snapshots of market participants' financial resilience will actually assist the Authority or improve market performance.

In particular, we note the following:

- the Authority has already formalised conservation campaigns and significantly reduced the scope for "opportunistic lobbying" to influence their commencement;
- the Authority has wide statutory information gathering powers that it can invoke when needed;
- while stress testing may partially legitimise prices up to the levels defined in the scenarios, it is likely to have the opposite effect for pricing outcomes outside the bounds of the scenarios;
- unfortunately, the Authority has already demonstrated that it is willing to respond to lobbying from parties unhappy with pricing outcomes;
- measuring and reporting on firms' financial resilience is unlikely to have any bearing on business and consumer confidence in the resilience of the physical market;
- the Authority does not have to implement a stress testing regime in order to help educate market participants (and spot exposed purchasers) that occasional high prices are necessary and desirable in a well-functioning energy-only electricity market.

If the Authority does decide to implement a stress testing regime, we consider that:

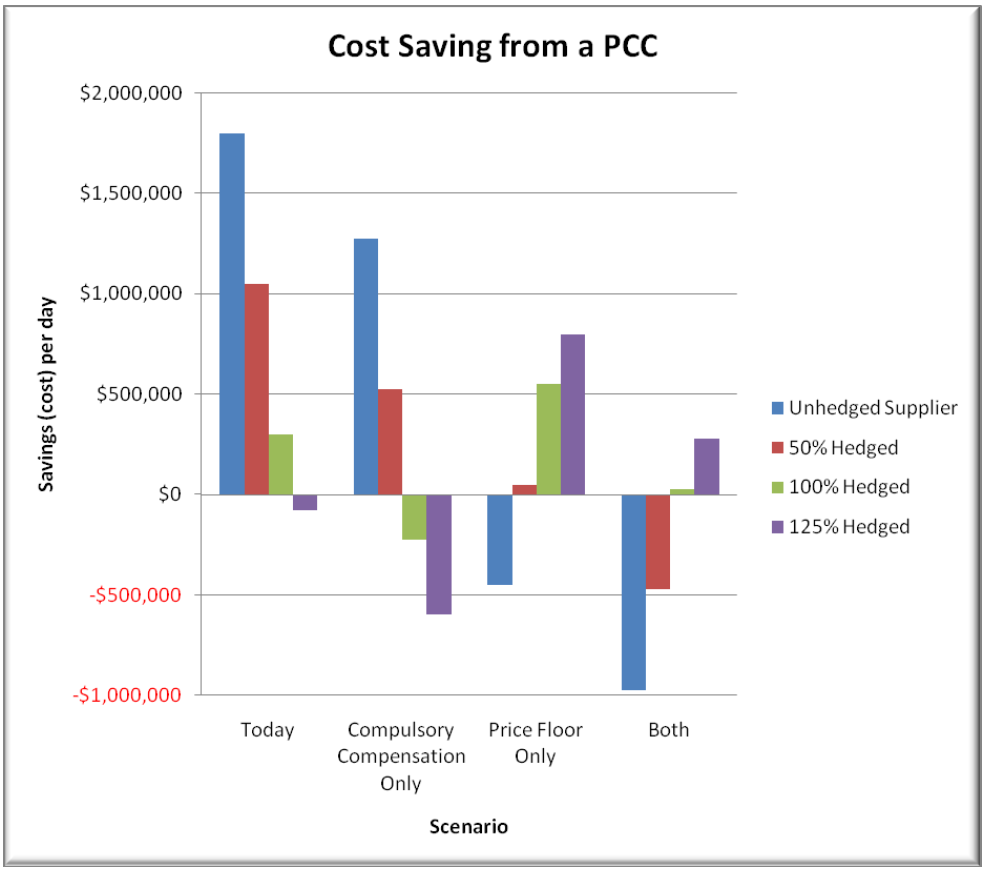
- the requirement for stress tests to be signed off by two directors is unnecessarily onerous; and

- half-yearly disclosure would be preferable to quarterly disclosure.

We consider that gold plated assurance is not required for an information and awareness tool for which the consequences of poor application are limited or nonexistent.

Customer payment regime is counter-productive as a standalone intervention

In our October 2010 submission on the Authority's customer compensation scheme proposal, we identified that implementing customer compensation as a standalone intervention without applying scarcity pricing to conservation campaigns would have perverse impacts.[5] We illustrated this point with the following simplified analysis based on the Authority's own modelling:



[5] Genesis Energy submission on customer compensation schemes dated 7 October 2010 (http://www.ea.govt.nz/document/11396/download/our-work/consultations/priority-projects/customer-compensation-scheme/submissions/)

This chart illustrates the predicament of a party that is a retailer and a provider of dry year reserve (that is, the "125% hedged" case):

- they are required, despite having made provision for adequate supply to their customers in dry conditions, to compensate their retail customers for the fact that a public conservation campaign has occurred; and
- their generation (or hedge resale) revenue is impaired by the price suppression that occurs during a public conservation campaign.

We noted in our October 2010 submission that this simple analysis suggests that:

- public conservation campaigns can penalise a retailer that is also a provider of dry year reserve (either through fuel management, generation ownership or hedging commitments);
- compulsory compensation by itself may further weaken incentives to provide dry year reserve, while not significantly reducing the incentive for an unhedged retailer to call for public conservation campaigns; and
- a price floor helps to prevent public conservation campaigns penalising the strategy of providing dry year reserve.

If you would like to discuss any of these matters further, please contact me on 04 495 3348.

Yours sincerely

Ross Parry
Regulatory Affairs Manager

Appendix A: Responses to Consultation Questions

QUESTION	COMMENT
Q1: Do you agree with the problem definition?	Yes, however we note the following points: • a last resort generator's offer price is irrelevant if non-price rationing displaces that generator; • occasional high prices are necessary and desirable in an energy-only market and do not indicate that the market is not workably competitive unless average prices are sustained at levels above the cost of an efficient new entrant; • prices in the New Zealand market should be expected to spike higher than in the Australian market given that episodes of scarcity are rarer due to the high levels of excess hydro capacity in New Zealand under normal conditions; and • we agree that *ad hoc* intervention to reduce high prices hinders productive investment and encourages lobbying and damaging claims about market competitiveness.
Q2: Do you agree that the proposed narrowing of scarcity pricing (to be applied for short-term emergencies and not for extended shortages) would be more consistent with the Authority's statutory objective?	No. The proposal leaves the majority of price suppression events caused by System Operator intervention unaddressed and will perpetuate the cost shifting and investment signalling problems that have been well documented by the Authority, the Ministerial Review, the Winter Review Team, the Electricity Commission and others. This will encourage a deterioration of reliability, which is not in the long-term interest of consumers and is not consistent with the Authority's statutory objective.

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QUESTION	COMMENT
Q3: Do you agree that scarcity pricing should be applied as a price floor and cap, rather than simply a price floor during emergency load shedding?	No. Applying a cap carries the benefit of simplifying risk product valuation and the risk of suppressing prices below the cost of non-supply. To avoid the latter risk, any cap should be set at a level that reflects a conservative estimate of the cost of non-supply. Based on the information the Authority provided to its Scarcity Pricing Technical Group on 10 August 2011, it appears that $35,000 would be a suitable cap (this is the approximate cost of a three hour interruption of supply to a small non-residential customer).
Q4: Do you agree that scarcity pricing should include a stop-loss mechanism, at least on a transitional basis?	We consider that a stop-loss mechanism is unnecessary given the very narrow circumstances in which the Authority proposes to apply scarcity pricing.
Q5: Do you agree that scarcity pricing should not apply for AUFLS *per se*?	No.
Q6: Do you agree with the proposed geographic threshold for initial application of scarcity pricing, and if not why?	No. Most load shedding events are regional in scale and scarcity pricing should apply at any node where load is rationed involuntarily. If the Authority is concerned about over-signalling in remote areas then it could exclude nodes on spur lines to reflect that a lower level of reliability may be tolerable in such areas. We expect that the Authority's proposed geographic threshold will exclude most price suppression events.

QUESTION	COMMENT
Q7: Do you agree that an amendment should be made to final pricing processes when an infeasible solution arises following an IR shortfall?	Yes.
Q8: Do you agree with the proposed implementation timetable?	Yes.
Q9: What is your view of the proposed review provisions for key scarcity pricing parameters?	These appear reasonable.
Q10: What is your view of the trigger mechanism for declaring a national or island shortage?	We expect that the AC constraint test will result in most scarcity events being excluded.
Q11: What is your view of the trigger mechanism for revoking shortage declarations?	We consider that scarcity pricing should remain in place until all consumers have their electricity supply restored so that pricing continues to reflect the cost of non-supply.
Q12: What is your view of the proposed pre-dispatch and real time indicators for scarcity pricing?	We agree that the proposed indicators should provide participants with useful information.

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QUESTION	COMMENT
Q13: Which approach do you believe will best meet the Authority's statutory objective (and why): - a common value for the GWAP floor and cap of $10,000/MWh; or - a GWAP floor of $10,000/MWh and a cap of $20,000/MWh?	Of the two options, a cap of $20,000 per MWh would best meet the Authority's statutory objective. A $10,000 per MWh cap risks significantly undervaluing the cost of non-supply to affected consumers and, as such, is likely to contribute to sub-optimal reliability.
Q14: Which approach do you believe will best meet the Authority's statutory objective (and why): - scaled pricing approach; or - flat pricing approach?	Scaled pricing is preferable because it preserves the underlying distribution of nodal prices (and hence some degree of locational price signalling).
Q15: What is your view of the proposed approach to applying scarcity pricing across trading periods?	We consider that intra-period triggering would provide a more accurate price signal. Basing the scarcity pricing trigger on starting conditions risks under-signalling the cost of non-supply in the same way that the value of reserves is under-signalled due to a similar approach being applied in the reserves market.
Q16: What is your view of the proposed approach to treating differences between forecast and actual conditions?	If an AC constraint test is to be applied, then this is best tested in the final pricing run. Otherwise, scarcity pricing should apply whenever there is non-supply due to non-price rationing by the System Operator.

QUESTION	COMMENT
Q17: What is your view of the proposed approach to HVDC rentals, and what alternative (if any) would you support and why?	We agree with the proposed scaling approach and note that applying a $20,000 or $35,000 per MWh cap would reduce the likelihood of negative HVDC rentals arising.
Q18: What is your view of the proposed approach to implementing a scarcity pricing stop-loss mechanism?	If a stop-loss mechanism is to be implemented, then we support the proposed approach.
Q19: What is your view of the proposed modification to final pricing when an IR shortfall occurs and an infeasible solution arises in final pricing?	We support the proposed approach.
Q20: What is your view of the proposed information to be disclosed?	Please refer to the body of this submission for our overall view on the proposal for a stress test regime. If the Authority is to implement a stress test regime of the nature described, then the proposed information appears appropriate.

QUESTION	COMMENT
Q21: What is your view of the indicative stress test parameters?	Please refer to the body of this submission for our overall view on the proposal for a stress test regime. If stress testing is intended to operate as a substitute for scarcity pricing, then it would be appropriate for the scenarios to mirror the problem. As such, two extended dry sequence scenarios would be appropriate. It is not clear why it would be appropriate to specify a capacity shortage scenario unless the proposed regime has a broader market education objective, in which case this objective could be met using a less interventionist approach. We consider that six monthly would be a more suitable interval for stress testing and the scenarios would need to be defined to suit this. For example, there could be dry winter scenarios reported in autumn and dry summer scenarios reported in spring.
Q22: What is your view of the proposed level of guidance to be provided to participants?	Please refer to the body of this submission for our overall view on the proposal for a stress test regime. The level of guidance is appropriate, although we note that each participant will have to make numerous assumptions specific to their business that will have a significant impact on the results of their modelling.
Q23: What is your view of the proposed frequency of reporting?	We consider that six monthly reporting would reduce the burden of the proposed regime while providing the Authority with a similar level of information.
Q24: What is your view of the proposed coverage of a disclosure obligation?	If stress testing is intended to operate as a substitute for scarcity pricing, then the proposed coverage appears appropriate. Please refer to the body of our submission for discussion of why a stress testing regime is not a substitute for scarcity pricing.

QUESTION	COMMENT
Q25: What is your view of how information disclosed could be used?	If stress testing is intended to operate as a substitute for scarcity pricing, then the proposed usage appears appropriate. Please refer to the body of our submission for discussion of why a stress testing regime is not a substitute for scarcity pricing.
Q26: What is your view of the proposed compliance and auditing arrangements?	The proposed compliance and auditing arrangements appear overly onerous given the overall nature of the regime and given the scope for legitimate variation in results depending on the business-specific assumptions adopted by each reporting entity. The effectiveness of the regime (if it is effective at all) does not rely on gold-plated assurance of reported stress test results. It should be sufficient to rely on sign-off by a senior officer of the reporting entity.
Q27: What is your view of the proposals when assessed against the Authority's statutory objective?	As discussed in detail in the body of our submission, the proposals will mean that most non-price rationing interventions will continue to result in prices not reflecting the cost of non-supply. Consequently, this will lead to the previously described cost-shifting and price suppression problems that cause the value of reliable supply to be under-signalled. This in turn impairs the efficient operation of the electricity market and the reliability of supply. As such, the proposals are not consistent with the Authority's statutory objective. We consider that the proposals are also inconsistent with the Authority's obligations under section 42 of the Electricity Industry Act 2010.

QUESTION	COMMENT
Q28: What is your view of the alternative means of achieving the objectives of the proposed scarcity pricing and stress-testing regime?	Introduction of a capacity market or insurance obligation instead of scarcity pricing has already been assessed and discarded. Changing to a single-buyer model would entail discarding the most significant benefits of having an electricity market. A compulsory day-ahead or week-ahead market would be a significant change to current arrangements, would create significant challenges for many (if not most) buyers and sellers, and would be unlikely to resolve the underlying problem of non-price rationing suppressing prices. We would welcome development of voluntary day-ahead of week-ahead markets if there is demand for such products. We consider that a more complete implementation of scarcity pricing, similar to that proposed by the Authority in April 2011 and by the Ministerial Review in December 2009, would be the best means of achieving the objective.
Q29: What is your view of the costs and benefits of the proposed scarcity pricing changes?	We consider that the proposed scarcity pricing is so narrowly defined that it is unlikely to be triggered and will therefore not have any material associated benefits. Given that we do not anticipate any benefits, we expect that the proposals will impose a net cost on the New Zealand economy.
Q30: What is your view of the costs and benefits of the proposed stress testing regime?	We consider that that the proposed stress testing regime is misconceived and will not have any material benefits. Refer to the body of our submission for more discussion on this point. Given that we do not anticipate any benefits, we expect that the proposals will impose a net cost on the New Zealand economy.

QUESTION	COMMENT
Q31: Do you propose any changes to the proposed Code amendments set out in Appendix C?	No.