Scarcity pricing – Response to proposed design

Submission to the Electricity Authority

From Contact Energy Limited

contact

This submission by Contact Energy Limited ("Contact") responds to the *Consultation Paper Scarcity Pricing – Proposed Design* paper ("the consultation paper") issued by the Electricity Authority ("the Authority") on 28 March 2011.

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Summary

Contact supports the Authority's objective for scarcity pricing, but in terms of creating an environment that incentivises efficient management of capacity and energy issues (issues that can lead to supply emergencies) Contact has a preference for market solutions over regulatory intervention.

Even where regulatory intervention can be justified, this extends to a preference for mechanisms such as cumulative price thresholds and price caps which help define the 'risk envelope' within which various outcomes eventuate; rather than price floors which can have unintended consequences.

While Contact will respond to the signals created by price floors, these preferences influence our comments on the scarcity pricing proposal.

Reserve and capacity shortfalls

Contact supports the Authority's proposal for Instantaneous Reserve shortfalls, with one amendment. The mechanism should include a reserve shortfall threshold, below which the reserve market would close. Below a certain threshold, reserve is of little value (in terms of contingency cover) and could be better utilised, where possible, as energy.

For capacity events that lead to emergency load shedding, Contact prefers a cumulative price threshold to a price floor. However, if a price floor is to be introduced, this should still be accompanied by a cumulative price threshold to limit unnecessary risk to market settlement and retail competition. Capacity shortfall events that trigger scarcity pricing should also not be restricted to a lack of generation and/or voluntary demand response, but include transmission events, voltage or frequency issues. Contact submits that scarcity pricing for emergency load shedding should be at a nodal level.

Energy shortfalls – public conservation campaigns and rolling outages/load shedding

For energy shortfalls that trigger public conservation campaigns, Contact believes that a spot price floor of $500/MWh during public conservation campaigns is likely to better signal the value of energy to participants than disclosure of net position exposure. The disclosure of net positions will be of very limited value given the deterministic nature of the triggers for such campaigns.

Whereas Contact believes that capacity shortfalls that result in emergency load shedding should be on a nodal basis, the proposal to have energy shortfalls (public conservation campaigns) on an island or national basis is rational.

For energy shortfalls that lead to rolling outages/load shedding, while Contact does not oppose the introduction of a spot price floor, its value is likely to be limited. For it to be an effective signal it should be accompanied by a cumulative price threshold.

Signals shouldn't be restricted to extreme events

Contact also submits that while the proposal, with our suggested amendments, should incentivise appropriate risk management in relation to low probability energy and capacity shortfall events, signals need to be consistently observable in spot prices. Investors will not build peaking plant, for example, just on the basis of extreme events. Those potentially affected by capacity and energy shortfalls need to have a realistic expectation of incurring costs if appropriate risk management practices are not applied.

Transition

Contact does not support the transitional provisions proposed by the Authority. Contact submits that scarcity pricing mechanisms should be introduced in full once stage 1 of the HVDC upgrade has been completed. This will reduce the likelihood of potentially large wealth transfers during a period in which participants will still be adjusting to scarcity pricing (amongst other major changes).

1. Addressing spot price suppression

Support for scarcity pricing objective; preference for market solutions

Contact supports the Authority's objective for scarcity pricing; to ensure that spot price suppression does not occur during supply emergencies due to the use of non-price rationing mechanisms. The Authority outlines the risks in terms of investment incentives that can result from these mechanisms.

In terms of creating an environment that incentivises efficient management of capacity and energy issues (that can lead to supply emergencies) however, Contact has a preference for market solutions over regulatory intervention.

Intervention should only help define risk envelope; provide consistent signal

Where regulatory intervention is proven to be justified, it should ideally help define the 'risk envelope' within which certain outcomes (particularly price) eventuate. Within this envelope, participants should manage risk commercially. Intervention that is overly restrictive (i.e. that narrows the risk envelope too far) can have unintended consequences, as the views of commercial entities as to how best to manage that risk – physically or financially – may require a broader range of outcomes than those possible within narrowly defined bands.

For this reason, Contact has a preference for mechanisms which provide limits on upside risk. Price caps and cumulative price thresholds (as opposed to price floors) for example ensure that signals are not solely triggered by low probability extreme events, but are consistently observable to participants who may be able respond.

While Contact will respond to signals created by price floors, it is important that potential unintended consequences are taken into account by the Authority when considering the final design for scarcity pricing, and amendments made accordingly.

2. The proposal for reserve and capacity shortfalls

Instantaneous Reserve shortfalls – support for Authority proposal with minor modification

Contact agrees that there are risks in the current mechanism for determining the price of Instantaneous Reserve ("IR"), despite improvements made in July 2010 by the Electricity Commission.

Relaxation of the IR requirement can lead to distortions in both the reserve and energy markets, and the changes introduced in July 2010 don't eliminate the possibility of infeasible IR prices; or alternatively very low prices that don't reflect the underlying risk of being able to meet the system security requirement. In real-time, this means participants are limited in their ability to respond to these signals, and to understand what final prices for IR might look like.

Contact therefore supports the proposal for IR shortfall events. The size of the risk to security of supply increases as the reserve shortfall increases, hence prices should reflect this. The use of a 'virtual IR provider' should also ensure that links to what IR is actually available are maintained; particularly where it is priced higher than what might arise from the step linear shortfall function.

The proposal should also ensure appropriate price relativity between the IR and energy markets. The IR market reflects the price of a potential security of supply risk, whereas energy prices reflect the real balance of energy supply and demand, hence the energy price should (generally) exceed the IR price.

Contact believes that a useful modification to the proposal would be to set a threshold for reserve shortfalls; such that if available IR dropped below a certain level then the IR market would be closed, and the energy price set by the floor for emergency load shedding. This would help ensure that very small amounts of IR wouldn't be setting a very high price, with little real benefit in terms of ability to offset a contingency. Beyond a certain shortfall threshold reserve won't be of value, and could be better utilised (in many cases) in the energy market.

Capacity shortfalls - emergency load shedding

Contact agrees that the current mechanisms for addressing emergency capacity shortfalls are inefficient because they use non-price rationing mechanisms to balance supply and demand. This can limit the signals observable to participants as to the value of capacity in providing security of supply.

In a market where the cost of providing/investing in that capacity is transparent, a cumulative price threshold or price cap would help define the risk envelope for capacity shortfalls. For participants, these mechanisms would help clarify the relative value of options to either invest in capacity, or manage exposure to shortfalls via the hedge market.

While the price floor (in isolation) as proposed provides some certainty over the minimum price of capacity under certain defined conditions, the unconstrained upside risk won't shed much light (for consumers in particular) as to the potential cost of such events. Prices floors are also a relatively blunt tool and may overestimate the value of capacity at times.

The restriction of the circumstances under which it would apply (i.e. ignoring transmission events, voltage or frequency issues) also limits its value, as well as introducing complexity (and discretion) in needing to define what 'causes' capacity shortfalls. Having to make what will realistically be judgemental decisions around the trigger of certain events will limit the signal to investors in capacity and/or those with demand response capability.

As a result, Contact submits that if a price floor of $10,000/MWh is to be introduced for capacity shortfalls (emergency load shedding);

- It should be accompanied by an upper limit in the form of a cumulative price threshold; and
- Scarcity pricing triggers for capacity shortfalls should not be restricted to a lack of generation and/or voluntary demand response, but should include transmission events, voltage or frequency issues.

These amendments would help ensure that the signal is consistently applied on a more marginal basis (rather than just for low probability extreme events) and that the value of capacity products (physical and financial) won't be eroded by price signals which don't reflect the real value of low capacity factor generation, or the cost of non-supply. Participants who would be affected by severe capacity shortfalls need to have a realistic expectation of incurring costs unless appropriate risk management practices are applied. Relying on a limited set of extreme events is not likely to be sufficient to achieve this, and won't help support a liquid hedge market.

A cumulative price threshold would also help ensure that participants aren't unnecessarily exposed to an uncapped liability which could put market settlement at risk. Its inclusion would recognise that beyond a certain level, the value of high prices as a signal is reduced. Having a cumulative price threshold would support the development of a more liquid hedge market.

Capacity shortfall price signal should be nodal

Supporting our view on the risks of restricting scarcity pricing to only capacity shortfalls triggered by a lack of generation and/or demand response, Contact also submits that scarcity pricing during capacity shortfalls (emergency load shedding) should be on a nodal basis. Much of the Authority's criticism of scarcity pricing signals at a nodal level seems to relate to the ability of participants to invest in, or manage, issues such as localised transmission constraints. Where scarcity pricing for capacity shortfalls is triggered by a broader range of events, it increases the options for potential investment in infrastructure that could address these constraints. For example, consistent signals around the value of capacity could incentivise the building of transmission and/or potentially generation in constrained areas[1]. While it is accepted that energy shortfalls are more likely to be island/national events (particularly in an environment with a less constrained HVDC link), capacity shortfalls are by their very nature localised. Mechanisms to incentivise a response to these shortfalls must be similarly targeted.

Supporting mechanisms must be aligned to provide a consistent signal via spot prices

Contact submits that in order for signals relating to the value of capacity to be of real value to those with an ability to invest/respond, prices for capacity events should not be suppressed via inappropriate use of mechanisms such as constrained on payments. Every effort should be made to ensure that constraints (for example) can be factored into spot price determination and hence be visible to all participants.

During recent capacity shortfalls, significant constrained-on payments were made to a generator because of an inability to factor a constraint into SPD. As a result, only selected participants were able to see the impact (payers/receivers of constrained on payments). Such mechanisms should only be used as a last resort, to ensure that marginal prices are reflective of the full cost of providing security of supply.

[1] As is assumed by the Authority in its cost benefit analysis of the Locational Price Risk proposal.

3. Incentivising prudent risk management during energy shortfalls

Energy shortfalls – public conservation campaigns

The introduction of the Consumer Compensation Scheme ("CCS") creates discrete triggers for the commencement and conclusion of public conservation campaigns (the 10% and 8% risk curves respectively). This influences the suitability of the two proposals put forward by the Authority in relation to energy shortfalls resulting from conservation campaigns; net position disclosure and/or a $500/MWh spot price floor.

In terms of the proposal to have participants disclose their net spot market exposure, the presence of the discrete triggers will significantly reduce the value of such information being provided to the market. Contact understands that much of the logic behind having deterministic triggers was to reduce the likelihood that parties would be incentivised to call for conservation campaigns.

The calculation of meaningful indications of a participant's net position is also likely to be difficult and resource intensive, particularly when considering the influence of factors such as loss and constraint rentals, and how options would be accounted for. Participants also have different ownership and capital structures which will influence risk appetite; factors that may not be easily gleaned by a viewer of high level net position information.

Contact already provides this information to the market, and encourages other participants to use the benchmarks provided by listed companies as a basis for their information disclosure.

The proposal for a spot price floor of $500/MWh for energy shortfalls (public conservation campaigns) is based on an assumption that the market won't price scarce resources appropriately during public conservation campaigns. The presence of the CCS should reduce this likelihood without requiring the introduction of a price floor. A spot price floor would also need to be shaped such that it did not incentivise use of scarce resources at times when prices would otherwise be below the $500/MWh price floor (for example, overnight).

Despite these drawbacks Contact believes that a spot price floor of $500/MWh during public conservation campaigns is likely to better signal the value of energy to participants than disclosure of net spot market exposure.

Whereas Contact believes that capacity shortfalls that result in emergency load shedding should be on a nodal basis, the proposal to have energy shortfalls (public conservation campaigns) on an island or national basis is rational. Particularly in an environment where the HVDC link is far less constrained than is currently the case, the increased ability for energy to flow between the islands will reduce the likelihood of an energy shortfall being localised.

Energy shortages – rolling outages/load shedding

Contact sees limited value in having a regulated signal of the value of energy for shortage events that lead to rolling outages/load shedding. In reality, the level of risk associated with rolling outages/load shedding is so high that spot prices should be well in excess of the spot price floor proposed.

The limited value a spot price floor would have comes from the nature of the shortage as being more foreseeable than emergency load shedding. A spot price floor should therefore incentivise increased risk management of exposure to these events.

The more predictable nature of sustained energy shortfalls also reinforces the Authority's proposal to use a spot price floor ($3,000/MWh) that is lower than that for emergency load shedding arising from capacity shortfalls ($10,000/MWh). The ways in which participants can manage their exposure to these events is also quite different.

Consistent with our view on the need for a cumulative price threshold for capacity shortfalls resulting in emergency load shedding, Contact submits that a constraint on the cumulative effect of prices during rolling outages/load shedding, should accompany any price floor introduced under these conditions. A cumulative price threshold would ensure that participants aren't unnecessarily exposed to an uncapped liability, which despite optimal management of fuel could still occur in a prolonged dry spell.

Overall, while Contact does not oppose the introduction of a spot price floor during energy shortfalls that lead to rolling outages/load shedding, its value is likely to be limited. For it to be an effective signal it should be accompanied by a cumulative price threshold. Contact prefers that signals of the value of generation and financial products to provide energy security are more consistently reflected in spot prices, rather than just being associated with very low probability events. Those potentially affected by sustained energy shortfalls need to have a realistic expectation of incurring costs if appropriate risk management practices are not applied, and relying on extreme events is not likely to be sufficient to achieve this.

As with our comments on energy shortfalls associated with public conservation campaigns, Contact supports the island/national application of price floors for energy shortfalls that lead to rolling outages/load shedding.

4. Transition and review provisions

Regulatory uncertainty

The Authority notes in its proposal that reviews would occur at least every three years, and would cover scarcity price values and other key design issues. Contact submits that certainty around these reviews and their timing is essential to the success of scarcity pricing mechanisms. The possibility of reviews within a three year period may incentivise parties who may be adversely (commercially) impacted by scarcity pricing to lobby for change that is not in the long-term interests of consumers.

For these reasons, Contact believes that reviews be fixed at three year intervals (with no interim reviews) and that the details of the review process and its coverage be fixed and firm; particularly in terms of key issues such as the value of price floors/thresholds and geographic coverage. Participants shouldn't be able to push for a 'regulatory hedge' that could undermine what are major changes to how the market signals the value of capacity and energy.

Timing of introduction of scarcity pricing

The introduction of the proposed scarcity pricing mechanisms comes at a time of significant change in the industry, with major transmission upgrades, generation investment and regulatory change all taking place.

The level of change means that where regulatory intervention occurs, it should be as robust as possible to ensure that participants can make commercial decisions around what are typically long life assets (and financial contracts) in a fully informed way. There is risk that having transitional provisions which phase in various components of scarcity pricing, or scale up values of scarcity prices, increase uncertainty for participants making those decisions.

For this reason, Contact does not support the transitional provisions proposed by the Authority. Contact submits that scarcity pricing mechanisms be introduced in full once stage 1 of the HVDC upgrade has been completed. This will reduce the likelihood of potentially large wealth transfers during a period in which participants will still be adjusting to scarcity pricing.

In terms of stop-loss mechanisms, Contact has already noted a preference for cumulative price thresholds to be permanent features associated with emergency load shedding (capacity related) and rolling outage/load shedding (energy) scarcity pricing events.

5. Other

Geographic extent of shortage

Contact has already noted a preference for which scarcity pricing mechanisms should be at a nodal level, and which should be island/national based.

Contact submits that scarcity pricing mechanisms for capacity related emergency load shedding should be at a nodal level, but that energy shortfalls (both public conservations and rolling outages/load shedding) should be island/national based.

Practical implementation of scarcity pricing

The Authority has not provided sufficient information for participants understand how, practically, the proposed scarcity pricing mechanisms will operate in real time, and also how they will be factored into settlement.

As well as the high-level design of the mechanisms, participants need to understand (for example) whether the changes will be introduced into SPD, whether they will be manual over-rides etc. Having this understanding is essential if parties are to be able to manage risk associated with these new initiatives.

Contact submits that the Authority should hold a workshop with interested parties to discuss these issues.

Cost benefit analysis

The information provided by the Authority around the net benefits of the proposal is very limited, and doesn't allow participants to see what factors are driving what appear to be quite high net benefits.

Specific answers to Questions

Question	Contact Energy response
Q1. To what extent is price suppression an issue with current pricing arrangements?	Contact believes price suppression is an issue with the current arrangements, and that this is not limited to just low probability extreme capacity and energy shortfalls.
Q2. To what extent do you agree that the spot price suppression will adversely affect security of supply?	Contact submits that spot price suppression will adversely affect security of supply, as the incentives for parties to manage (physically or financially) these risks are muted.
Q3. What is your assessment of historic security of supply performance, and the likely future performance under current arrangements?	The current arrangements are likely to increase security of supply risk over time, as they have historically.
Q4. What is your view of the proposed price floor to be applied in emergency load curtailment?	For capacity events that lead to emergency load shedding, Contact prefers a cumulative price threshold to a price floor. However, if a price floor is to be introduced, this should still be accompanied by a cumulative price threshold to limit unnecessary risk to market settlement and retail competition. Capacity shortfall events that trigger scarcity pricing should also not just be restricted to a lack of generation and/or voluntary demand response, but include transmission events, voltage or frequency issues. Contact submits that scarcity pricing for emergency load shedding should be at a nodal level.
Q5. What is your view of the proposed treatment of load curtailment in AUFLS events?	Contact agrees with the Authority proposal that AUFLS not trigger scarcity pricing. The risk of such extreme events should be reflected in spot prices prior to such events occurring (when parties have the ability to respond).
Q6. What is your view of the proposed approach to pricing during IR shortfalls?	Contact supports the Authority's proposal for Instantaneous Reserve shortfalls, with one amendment. The mechanism should include a reserve shortfall threshold, below which the reserve market would close. Below this level, reserve is of little value, and would be better utilised (where possible) as energy.
Q7. What is your view of the proposed price floor to be applied in rolling outage load curtailment?	For energy shortfalls that lead to rolling outages/load shedding, while Contact does not oppose the introduction of a spot price floor, its value is likely to be limited. For it to be an effective signal it should be accompanied by a cumulative price threshold.
Q8. What is your view of the proposed disclosure mechanism?	The disclosure of net positions will be of very limited value given the deterministic nature of the triggers for such campaigns.
Q9. What is your view of these possible financial mechanisms?	See above.
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	No there is not merit in pursuing both. For energy shortfalls that trigger public conservation campaigns, Contact believes that a spot price floor of $500/MWh during public conservation campaigns is likely to better

pursuing both mechanisms?	signal the value of energy to participants than disclosure of net position spot exposure. The disclosure of net positions will be of very limited value given the deterministic nature of the triggers for such campaigns.
Q11. What is your view of the proposed approach to imposing a minimum geographic threshold before any scarcity price floor is applied?	Contact believes that capacity shortfalls that result in emergency load shedding should be on a nodal basis and that events that trigger scarcity pricing should not just be restricted to a lack of generation and/or voluntary demand response, but include transmission events, voltage or frequency issues. Contact agrees that energy shortfalls (public conservation campaigns) should be on an island or national basis.
Q12. What is your view of the preferred approach to transition arrangements?	Contact does not support the transitional provisions proposed by the Authority. Contact submits that scarcity pricing mechanisms be introduced in full once the HVDC upgrade has been finalised. This will reduce the likelihood of some major risks during a period in which participants will still be adjusting to scarcity pricing.
Q13. What is your view of the proposed approach to review arrangements?	Contact believes that reviews be fixed at three year intervals (with no interim reviews) and that the details of the review process and its coverage be fixed and firm; particularly in terms of key issues such as the value of price floors/thresholds and geographic coverage.
Q14. What is your view of the proposed changes when assessed against the Electricity Authority's statutory objective?	Contact submits that the use of price floors may have unintended consequences that impact on the long-term benefit of consumers.
Q15. What, if any, other reasonably practicable options should be considered?	If price floors for emergency load shedding and rolling outages/load shedding are to be introduced, these should be accompanied by cumulative price thresholds. The mechanisms should also be introduced in their entirety once stage 1 of the HVDC upgrade has been completed. Also see responses to questions 4, 6, 7, 10, 11 and 12.
Q16. What is your view of a capacity mechanism, when assessed against the Electricity Authority's statutory objective?	Contact would prefer that the market provide marginal spot price signals that reflect the risk of capacity and energy events. The use of cumulative price thresholds and/or price caps (and not price floors) would promote the use of market driven capacity products, rather than needing them to be regulated. This would be of more benefit to consumers in the long-term than the proposal.
Q17. What is your view of the costs and benefits of the proposed changes?	The information provided by the Authority around the net benefits of the proposal is very limited, and doesn't allow participants to see what factors are driving what appear to be quite high net benefits.

Q18. 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)?	The Authority's analysis seems reasonable.
Q19. What further pro-competitive initiatives should the Authority be considering at this time?	The Whirinaki capacity offer price should not be reduced to SRMC. The Dispatchable Demand initiative should be introduced as soon as possible.
Q20. 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?	Contact's proposed amendments to the proposal would increase certainty around the conditions when scarcity pricing would, and would not, apply. This would eliminate the need for changes to the UTS provisions. Our proposals around the review of scarcity pricing would also reduce the likelihood that parties try to seek a 'regulatory hedge' to issues which are the result of decisions around risk management c.f. genuine undesirable trading situations.
Q21. What is your view of price capping mechanisms, when assessed against the Electricity Authority's statutory objective?	Contact has a general preference for mechanisms which provide limits on upside risk. Price caps and cumulative price thresholds (as opposed to price floors) for example ensure that signals are not solely triggered by low probability extreme events, but are consistently observable to participants who may be able respond. This is likely to be a better fit with the Authority's statutory objective (in terms of long term benefit to consumers) than the proposal.