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Submissions
Electricity Authority
PO Box 10041
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Dear Sir/Madam

**Re: Consultation Paper – Scarcity pricing and related measures –
proposed amendments to the Code**

This is Transpower New Zealand Limited's submission on the Electricity Authority's 13 July 2011 consultation paper *Scarcity pricing and related measures – proposed amendments to the Code*. Scarcity pricing is one of the specific new matters to be included in the Electricity Industry Participation Code ('the Code') by 1 November 2011, as required by section 42(2) of the Electricity Industry Act 2010. Given this timeframe there is little, if any, time left to debate substantial policy issues. For this reason, Transpower's submission primarily focuses on the proposed amendments to the Code, and the choice of options that may be implemented expeditiously.

Background to changes recommended to Technical Code B

The Code places numerous concurrent obligations on the system operator (SO). The Code also permits the SO to instruct or request classes of participants to take certain actions to enable the SO to fulfil its obligations. The specification of these obligations and options in the Code are written for the benefit of a wide number of stakeholders.

To fulfil the obligations and take advantage of the options, the SO has mapped the numerous obligations and opportunities to a number of models, policies, and procedures. These policies and procedures must also facilitate the control centre operator's interface with the information available on the state of the power system. Having mapped many obligations to fewer policies, and provided the interface with the control room tools and infrastructure, it is not always possible to link an action by a control centre operator to one specific Code obligation.

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The role of the control centre operator is to focus on the secure, physical, operation of the power system. Pricing is the dual of the physical processes.

Amendments to Technical Code B of Schedule 8.3 and associated definitions

Technical Code B – emergencies sets out the basis on which the SO and participants must anticipate and respond to emergency events. We understand from the proposed amendments, and through discussion with the Electricity Authority (Authority), that the Authority is seeking to:

- identify a means of warning participants of the potential incidence of a scarcity price; and
- capture and provide information to the pricing manager for use in the preparation of prices.

Clause 6 of Technical Code B sets out the actions to be taken by the SO in a grid emergency. Specific to the amendments proposed by the Authority are the following sub-clauses (paraphrased):

- 6(1)(d) – if there is insufficient generation and frequency keeping capacity, the SO may require the disconnection of demand;
- 6(3) – if the frequency is outside the normal band and all available generation has been dispatched the SO may require the disconnection of demand; and
- 6(5) – if an unexpected event occurs, the SO may take any reasonable action (assumed to include the ability to require the disconnection of demand).

For operational purposes, the SO has convolved these requirements into a single process that takes account of, amongst others, offered generation capacity, intermittent generation and actual generation at the frequency keeping station(s). The unbundling of the operational process to identify which sub-clause applied would require an ex post process, so as not to distract from the real time operation of the power system.

The process to require disconnection of demand also takes account of actual demand. At the time of requiring demand disconnection, it is not uncommon for actual demand to be at variance from forecast demand due to participant response to high spot prices and notices warning of impending requests for demand disconnection. Ideally, the incidence of high spot prices and/or warning notices will negate the need for instructed demand disconnection.

Scarcity price is only to arise within the North or South Island when there are no binding constraints within the island. Consideration of market model (SPD) solutions is the only available indicator of binding constraints given the reference to nodal price difference in the definition of a binding constraint.

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Given the observation, above, that it is not uncommon for demand to be at variance from actual demand at the time of a requirement to disconnect demand, and the possibility that intermittent generation (e.g. wind) may also be at variance from forecast, ex ante market model solutions may or may not be a good indicator of binding constraints within an island.

Recognising:

- that the SO's focus is on the physical operation of the power system, especially during a grid emergency;
- the convolution of the relevant available actions set out in Technical Code B into a single operational process;
- the variance between forecast and actual demand, and forecast and actual intermittent generation at the time demand disconnection is finally required; and
- that market model solutions are the only means of indentifying binding constraints given the need to test for nodal price differences;

the SO recommends an alternate approach to that set out in the amendments to Technical Code B.

The SO operational process for demand disconnection will, if assessed to be the appropriate action, identify and initiate island-wide demand disconnection. The SO therefore recommends that it only publish a notice as soon as practicable after an island-wide demand disconnection requirement has been issued or revoked. Such notices would meet the Authority's objectives.

The proposed changes to definitions and Technical Code B reflect the above recommendation. There are several references to shortage situations in Part 13 that should be references to scarcity pricing situations. A number of other small amendments have been suggested.

Our responses to the consultation questions are appended to this letter and our recommended Code amendments are set out in the accompanying document.

Yours sincerely



Richard Fletcher
Regulatory Strategy Manager

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Consultation Questions

Question		Response
1	Do you agree with the problem definition?	Yes, the incidence of price suppression, arising from the current market design during short term emergencies requiring emergency load shedding, conservation campaigns, and rolling outages, materially weakens incentives on participants to manage risks “prudently” and invest.
2	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?	<p>No. It is unclear how “mutually beneficial commercial arrangements” will stem from suppressed prices. The need for rolling outages could arise within days, e.g. a reasonably dry period (low inflows, low storage) and the sustained failure of major thermal plant.</p> <p>New Zealand cannot avoid the need to grapple with the complexity of a primarily energy constrained power system.</p> <p>Lobbying has and will continue to occur. Rigorous design of the Code in line with the Authority’s objective should withstand any lobbyist’s claims driven by private interests.</p> <p>The need for floors in the event of a conservation campaign or rolling outages should be considered as part of the first review of the scarcity pricing regime.</p>
3	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?	This is a pragmatic first step. The quantum must be reviewed on a regular basis – see our response to question 9.
4	Do you agree that scarcity pricing should include a stop-loss mechanism, at least on a transitional basis?	Yes, subject to review.
5	Do you agree that scarcity pricing should not apply for AUFLS per se?	Initially yes. This element of the scarcity pricing design should be subject to regular review.
6	Do you agree with the proposed geographic threshold for initial application of scarcity pricing, and if not why?	This question is largely academic. The geographic threshold needs to be consistent with the FTR design, and this has not yet been determined.
7	Do you agree that an amendment should be made to final pricing processes when an infeasible solution arises following an IR shortfall?	No. The Authority is seeking to reduce the implementation lead time for section 42 matters. The inclusion of changes such as this is at odds with the Authority’s objective.

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		The problem has not been “demonstrated”. This issue should be left for consideration as part of the initial 2014 review.
8	Do you agree with the proposed implementation timetable?	The introduction of scarcity pricing from 1 June 2013 is realistic.
9	What is your view of the proposed review provisions for key scarcity pricing parameters?	<p>Transpower supports the timetable for the initial review.</p> <p>To ensure the regime remains effective, further reviews should be completed within 3 year intervals.</p> <p>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.</p>
10	What is your view of the trigger mechanism for declaring a national or island shortage?	<p>The desire to warn participants of the possible incidence of a scarcity price is understandable; however, the incidence of a scarcity price should not be dependent on the system operator successfully completing an administrative process.</p> <p>As with other dispatch instructions, the system operator should log instructions to disconnect demand, reinstate demand, and the revocation of instructions to disconnect demand. These instructions should be made available to the pricing manager.</p> <p>The system operator does not object to an obligation to provide a warning of the possible incidence of a scarcity price. Such notices will be rare, perhaps once every 5 or more years on average. Reliance on operator action when they will almost certainly be focused on the physical management of the power system is not without risk, at least in respect of timeliness. Every endeavour should be made to specify this obligation in a manner that can be fulfilled with limited operator workload. Such notices should not be a substitute for the need for participants to monitor schedule information, including price information.</p> <p>The determination of whether a scarcity price is applicable should be based on physical parameters and prices from market scheduling and pricing processes. We note that whether a scarcity price applies cannot be determined until the pricing manager has completed the pricing process.</p>

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11	What is your view of the trigger mechanism for revoking shortage declarations?	Refer to our response to question 10.
12	What is your view of the proposed pre-dispatch and real time indicators for scarcity pricing?	No comment.
13	Which approach do you believe will best meet the Authority's statutory objective (and why): <ul style="list-style-type: none"> - 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? 	The latter is a lesser intervention and more consistent with the uncapped market design. This option provides fewer safeguards, encouraging participants to develop systems to manage security in ways that are robust to adverse events.
14	Which approach do you believe will best meet the Authority's statutory objective (and why): <ul style="list-style-type: none"> - scaled pricing approach; or - flat pricing approach? 	The preferred approach needs to be consistent with the FTR design.
15	What is your view of the proposed approach to applying scarcity pricing across trading periods?	The proposed approach is consistent with the philosophy employed elsewhere in the Code, e.g. clause 13.141(a)(i), clause 6(a) of Schedule 13.3.
16	What is your view of the proposed approach to treating differences between forecast and actual conditions?	We agree with the proposed test.
17	What is your view of the proposed approach to HVDC rentals, and what alternative (if any) would you support and why?	The preferred approach needs to be consistent with the FTR design.
18	What is your view of the proposed approach to implementing a scarcity pricing stop-loss mechanism?	This seems simple and workable.
19	What is your view of the proposed modification to final pricing when an IR shortfall occurs and an infeasible solution arises in final pricing?	No comment.
20	What is your view of the proposed information to be disclosed?	No comment.

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21	What is your view of the indicative stress test parameters?	No comment.
22	What is your view of the proposed level of guidance to be provided to participants?	No comment.
23	What is your view of the proposed frequency of reporting?	No comment.
24	What is your view of the proposed coverage of a disclosure obligation?	No comment.
25	What is your view of how information disclosed could be used?	No comment.
26	What is your view of the proposed compliance and auditing arrangements?	No comment.
27	What is your view of the proposals when assessed against the Authority's statutory objective?	The analysis of the proposed regime against the Authority's statutory objectives appears satisfactory.
28	What is your view of the alternative means of achieving the objectives of the proposed scarcity pricing and stress-testing regime?	No comment.
29	What is your view of the costs and benefits of the proposed scarcity pricing changes?	The quantum of favourable benefit will remain a source of debate but there are few doubts that the net balance will remain favourable.
30	What is your view of the costs and benefits of the proposed stress testing regime?	No comment.
31	Do you propose any changes to the proposed Code amendments set out in Appendix C?	Refer to the following table: Draft Code.