Better together.

Trustpower Limited
Head Office
108 Durham Street
Tauranga
Postal Address:
Private Bag 12023
Tauranga Mail Centre
Tauranga 3143
F 0800 32 93 02
Offices in
Auckland
Wellington
Christchurch
Oamaru
Freephone
0800 87 87 87
trustpower.co.nz

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Submissions
Electricity Authority
Level 7, ASB Bank Tower
2 Hunter Street
P O Box 10041
WELLINGTON

By email: submissions@ea.govt.nz

TRUSTPOWER SUBMISSION: REAL-TIME PRICING PROPOSAL

1 Introduction and overview

1.1.1 Trustpower Limited (**Trustpower**) welcomes the opportunity to provide a submission to the Electricity Authority (**the Authority**) on the *real-time pricing proposal* (the **Consultation Paper**[1]).

1.1.2 The Consultation Paper proposes moving to real-time (ex-ante) pricing for the spot market (**RTP**). Final prices for the spot market would be determined and published in real-time based on the system operator's dispatch process. This will provide parties with timely and reliable information in advance on the prices they will receive/pay for their spot market transactions.

2 Trustpower's views

2.1.1 We are generally supportive of implementing the proposed RTP arrangements, as providing ex-ante price certainty can be expected to:

a) Result in more efficient, short and long-term decision making by all market participants;

b) Enhance confidence in the market's outcomes; and

c) Further support the adoption of more innovative solutions to changing system conditions such as the installation of batteries.

2.1.2 We note that under RTP retailers will potentially be exposed to new price risks. In order to get a better understanding of these potential new risks, we submitted a number of questions into the Authority's Q&A process, including a request for worked examples of how RTP would work in a number of scenarios[2]. We thank the Authority for its detailed and considered responses to these questions. In our view the Authority's responses to these questions, along with other questions

[1] http://www.ea.govt.nz/development/work-programme/pricing-cost-allocation/spot-market-settlement-on-real-time-pricing/consultations/#c16609

[2] Refer to: http://www.ea.govt.nz/development/work-programme/pricing-cost-allocation/spot-market-settlement-on-real-time-pricing/development/real-time-pricing-frequently-asked-questions/

raised as part of the Q&A process, clarify the potential price risks that retailers may be exposed to under RTP.

2.1.3 Retailers will need to be able to mitigate these new potential pricing risks under the new arrangements. The clear identification of the potential risks during this consultation process will potentially help stimulate the development of appropriate new hedging arrangements which will provide one avenue for managing these new risks.

2.1.4 Based on the information provided by the Authority to date, including the worked examples, we also consider that there may be a reasonable case for incorporating pragmatic limitations on the risks faced by retailers into the design of the RTP arrangements. We support the Authority in further considering:

a) Applying a limit on the price ratios that can arise during a spring washer event - explored further in our responses to questions 1 and 10 in Appendix 1; and

b) Maintaining a cumulative price limit to apply during scarcity events - explored further to our response to question 8 in Appendix 1.

2.1.5 Our responses to the specific questions outlined in the Consultation Paper are provided in Appendix 1.

For any questions relating to the material in this submission, please contact me on 07 572 9888.

Regards,

FIONA WISEMAN
SENIOR ADVISOR STRATEGY AND REGULATION

Appendix 1: Responses to the Authority's questions

Question	Response
1. Do you agree with the broad principle of using dispatch prices to determine final prices? If not, please explain your reasoning.	1.1 Yes, we generally support the Authority's design philosophy of aligning final prices with the system operator's real-time dispatch process. We appreciate that the proposal seeks to achieve this goal while minimising complexity and system costs. 1.2 We consider that in the case of spring washers the Authority should consider incorporating a pragmatic limit on the price ratios into the design to mitigate the risk to retailers. For example, a limit of 5x the highest cleared generation offer at any node during a spring washer event, would protect retailers against incurring significant additional costs under the new RTP arrangements. We note this could be applied ex-ante and therefore be consistent with the RTP arrangements being proposed. We would be happy to discuss this matter further with the Authority. 1.3 More broadly, we recommend that the Authority undertake a post-implementation review of the proposed RTP arrangements, within a reasonable period following implementation, e.g. 2-3 years later. We have outlined a number of matters that should be explicitly considered as part of this review in our responses to the Authority's questions in this Appendix.
2. Do you agree with using the time-weighted average of dispatch prices to calculate prices for a trading period? If not, please explain your reasoning.	2.1 We consider that at this time a half hour settlement arrangement should be maintained. As a result we support the proposed use of a time-weighted average of dispatch prices to calculate the price for a trading interval at each node. 2.2 We however note that under the proposed half hourly arrangement, there can still be potentially significant fluctuations between five minute prices which may make decision making difficult. There could be value in the future in aligning the approximate five minute dispatch periods with the settlement period, similar to the current proposal being considered in the NEM to move to 5 minute settlement. This would align the physical electricity system with the price signal that was provided and potentially lead to further efficiency gains with respect to bidding, operational decisions and investment. We acknowledge this would be a

		further fundamental change and support the Authority in considering this matter further with a view to potentially including this on the future work plan. We note that another alternative may be to move to a 5-minute PRS-type forecast schedule, to improve the granularity of forecast prices.
3. Do you agree with disestablishing the pricing manager and allocating residual functions to other parties? If not, please explain your reasoning.	3.1	Yes, we support the role of the pricing manager being disestablished and any residual functions being allocated to other parties. There will no longer be any need to undertake ex-post calculations of spot prices and the remaining roles (calculating interim prices, changing the status of prices from interim to final, and addressing material pricing errors) can largely be automated processes undertaken by the clearing manager and/or system operator. This will ensure unnecessary costs are not incurred by the market associated with funding a pricing manager to continue to undertake a significantly reduced role.
4. Do you agree with the general approach of using default scarcity values to handle generation shortages? If not, please explain your reasoning.	4.1	We are currently uncertain whether the proposed approach of using default load blocks is the best approach possible to implementing scarcity values into the new arrangements. We consider there may be merit to adopting a "proxy generator" approach during scarcity pricing, with tranches equal to the 5/15/80% load blocks. This would remove the potential confusion caused by indicating a load block will be dispatched off, with the system operator actually shedding load, but the quantum of shed load being "remembered" and inputted as real demand to the RTD solve during the relevant periods. We note that to date the Authority has not expressly considered this approach and recommend that the Authority considers whether this may be a more pragmatic solution to adopt as part of the RTP design.
	4.2	We also note that, from a practical point of view, it would be very difficult for the system operator to get the exact demand response required by the dispatch schedule, i.e. some load will simply not turn off when told and so there will be a natural tendency to seek a greater level of curtailment than required by the dispatch schedule.
5. Do you agree with using default scarcity bids	5.1	Yes, subject to our points under Q4, we agree with the use of default scarcity bids

	before generation or dispatchable demand offered at a high price in the dispatch schedule? If not, please explain your reasoning.		provided that they remain a reasonable reflection of the value of lost load (**VoLL**). 5.2 We note that these values have not been updated for a number of years and may no longer reflect the utility to consumers of electricity supply. To the extent that these values may be out of date then a "pseudo" cap will have been introduced into the market that may not appropriately reflect the real demand curve. We consider that to mitigate this risk the Authority should undertake a review of the VoLL values prior to the commencement of the proposed changes. At a minimum a CPI adjustment to the values each year should be considered[3]. 5.3 Going forward, we consider that it would be valuable to introduce a requirement for a more frequent review of the VoLL, for example a required annual or biannual review. Likewise, where an event occurs which triggers VoLL setting the price in the market then a specific review of the event should be undertaken. 5.4 There may also be value in introducing more granularity around the proposed tranches of load in the future. This should be explored as part of a post-implementation review of the RTP arrangements.
6.	Do you agree the system operator does not need to make changes to the existing process it uses to notify distributors of emergency load shedding?	6.1	Yes, we consider that the arrangements will continue to work appropriately. However we note that greater transparency of notifications of events would be valuable so the wider market is aware of any real time action being undertaken.
7.	What is your view on the preferred treatment of disconnected nodes? Please explain your reasoning	7.1	We support the Authority's proposed treatment of disconnected nodes.
8.	Do you agree that it is not desirable to apply a cumulative price limit under RTP? If not, please explain your reasoning.	8.1	No, we consider that there is potentially value in maintaining a cumulative price limit to apply during scarcity events as a mechanism for reducing price risk during tight market situations. This would help to mitigate risk to retailers and would be consistent with the fact that VoLL would be anticipated to decline during a scarcity event, reflecting impacted customers moving to alternative

[3] This has been the approach adopted in the NEM since 2012.

	arrangements where possible. For example, a household switching to gas for cooking during the event; or a business bringing in a diesel generator to supply power. 8.2 We note that maintaining a cumulative price threshold would align with the fact that the proposed scarcity prices are an administered solution in any case. Further, scarcity values would be unlikely to be reached that frequently (though any notional "real-time" prices published by the Authority during the transition period would test this view) and as a result there should not be a significant distortion to investment signals, through a reduced ability to recover costs. 8.3 We consider there would be value in the post implementation review considering the level set for the cumulative price limit to determine if it remains appropriate. 8.4 We also consider that following an event which results in the cumulative price limit being applied there should be a thorough review undertaken by the Authority, including the circumstances leading up to the cumulative price limit being triggered and the pricing implications.
9. Do you agree the current principle of partially relaxing reserve procurement before invoking emergency load shedding should continue under RTP? If not, please explain your reasoning.	9.1 Yes, we support maintaining the principle of partially relaxing reserve procurement before invoking emergency load shedding.
10. Do you agree with the proposed removal of the high spring washer pricing provisions in the Code? If not, please explain your reasoning.	10.1 Yes, in principle we support this approach as it is consistent with ex-ante pricing being established. 10.2 We note that the Authority is proposing to remove the current protection that enables spring washers to be relaxed on occasions where the constraints are only just binding. We appreciate that under the proposed RTP arrangements high spring washer events would trigger default scarcity prices (most likely $10,000/MWh) , which are much lower than the potentially high spot prices that could be triggered currently of $100,000/ MWh or more. However we consider that the removal of the current spring washer relaxation capability, may result in an increase in the frequency of spring washer events impacting on prices.

	10.3 As outlined in our response in Q1, we consider that there may be a case for applying a high spring washer price ratio limit (ex-ante) in the RTD schedule. This would mitigate some of the risk to retailers. We acknowledge that the current arrangements would not be fit for purpose as they would require ex-post adjustments to take place. 10.4 We would be interested in the views of other participants around this particular matter, particularly as to whether there should be a maximum applied of either the lowest VoLL tranche ($10,000) or a price ratio limit.
11. Do you agree with the proposed changes for demand inputs? If not, please explain your reasoning.	11.1 Yes, we agree with moving to a bottom-up load forecast. 11.2 We also consider it is important that the forecasting approach, including details of all the components that are taken into account, should be made transparent.
12. Do you agree with ION meter data should be the primary data source for demand inputs? If not please explain your reasoning.	12.1 Yes, we support using ION meter data as the primary data source.
13. What is your view on the best approach to incorporate dispatchable demand within an RTP framework? Please explain your reasoning.	13.1 We consider it makes sense to have generation and dispatchable demand in the same dispatch merit order and subject to the same dispatch compliance obligations. This will ensure a level playing field and will promote efficient market outcomes. 13.2 Consistent with ensuring a level playing field, we consider it is important that the trading conduct provisions apply to dispatchable demand bids. We note the Authority's advice that this is anticipated to be completed prior to RTP commencing.
14. Do you agree with the proposed features for a dispatch-lite product? If not, please explain your reasoning.	14.1 Yes, we consider that the proposed features for a dispatch-lite product are reasonable. 14.2 It does however seem counter-intuitive to have dispatch-lite set the price when they then may choose not to respond to the price signal. We acknowledge however that it is uncertain whether there will be many participants take up this

	offer as large industrial loads will participate directly as dispatchable demand. As a result, dispatch-lite setting the price but not responding may be a rare occurrence. This matter could be considered during the post-implementation review of the proposed RTP arrangements.
15. Do you agree with the proposal to allow revisions to offers and bids within trading periods in some circumstances? If not, please explain your reasoning.	15.1 Yes, we agree with the proposal to allow revisions to offers and bids within trading periods where bone fide physical reasons exist or there is an emergency.
16. Do you agree with using the last bid or offer received in a trading period when calculating constrained on and off payments? If not, please explain your reasoning.	16.1 Yes, we agree that the last bid or offer received in a trading period should be used for the calculation of constrained on and off payments.
17. Do you agree we should retain a process for addressing material pricing errors? If not, please explain your reasoning.	17.1 Yes, we support a process for addressing material pricing errors being maintained.
18. Which approach do you prefer for managing pricing errors: a manual claim or automated checking? Please explain your reasoning (this could include suggestions for an automated filter).	18.1 We consider that a hybrid version may be optimal whereby an automated checking process like that used in the NEM could apply, but with an ability under exceptional circumstances to make a manual pricing error claim. Introducing a hybrid arrangement for managing pricing errors would provide assurances that there was an alternative manual arrangement for addressing pricing errors should the automated arrangement fail to identify an issue. 18.2 A hybrid arrangement could act as a transition arrangement until market participants are comfortable with relying entirely on an automated process, though depending on the number of manual claims there may be value in maintaining a hybrid approach going forward. 18.3 We consider that whether the hybrid arrangement should continue permanently should be further explored as part of the post-implementation review.

19. If we retain a manual claim process for pricing errors under RTP, who should perform the role: the System Operator? The Authority? The Pricing Manager, as their only function? Some other party? Please explain your reasoning, including regarding any possible conflict of interest.	19.1 We consider that the Authority should undertake this function, subject to being able to meet the much tighter timeframes for investigating, advising, correcting and notifying the market of pricing errors (i.e. the next business day). There have been recent examples of this straightforward process taking more than two weeks to resolve which is suboptimal from an ex-post (let alone ex-ante) market perspective. 19.2 Maintaining the pricing manager to carry out a small number of functions would be inefficient. Similarly, we consider that the system operator would be inappropriately conflicted in reviewing pricing errors given their new role in determining prices. There should however be no restrictions on the system operator identifying any potential pricing errors.
20. Do you agree with the proposed treatment of spot prices during market system outages? If not, please explain your reasoning.	20.1 Yes, we agree with the proposed treatment of spot prices during market system outages.
21. Do you agree with the proposed changes to forecast schedules to align them with dispatch schedules? If not, please explain your reasoning.	21.1 Yes, we consider that the proposed alignment of forecast schedules and dispatch schedules makes sense. 21.2 Likewise we support considering a move to a 5-minute PRS-type forecast schedule in the future. This should be captured in the post implementation review of the RTP arrangements.
22. Do you agree with the proposed use of dispatch schedules to apportion loss and constraint excess for financial transmission rights each month (if that is required)? If not, please explain your reasoning.	22.1 Yes, we agree with the proposed use of dispatch schedules to apportion loss and constraint excess. We understand that introducing RTP will be unlikely to change the current arrangements.
23. Do you agree with the proposed approach for transitioning to RTP? If not, please explain your reasoning.	23.1 Yes, we support the staged implementation of RTP over four years. This will enable sufficient time to develop the required new systems, processes and hedging instruments (if required). 23.2 We consider there will be significant value in undertaking a parallel run during

		the transition period so that impacted parties can understand how pricing outcomes would vary in reality from the current arrangements. This would also enable any potential issues to be identified and addressed prior to official "go-live". We note that the Authority is considering whether it would be possible to publish notional "real-time" prices in the lead up to the RTP going live.
24. Do you agree with the objective of the proposed Code amendment? If not, please explain your reasoning.	24.1	Yes, we support the assessment against the statutory objective.
25. Do you agree with the cost benefit assessment? In particular – what (if any) other sources of benefit should be included in the assessment? – what is your view on key assumptions, such as the level of improved demand response enabled by RTP? – what (if any) other sources of costs should be included in the assessment? Please explain your reasoning.	25.1 25.2	We have not gone into detail in reviewing the cost benefit assessment presented by the Authority but we do consider it is likely that the changes will lead to positive outcomes. We have raised some concerns directly with the Authority around the need for a more granular simulation of spot market outcomes (i.e. a more detailed hindcast for each trading period, rather than just those involving infeasibilities or spring washers). There could be adverse impacts on some specific consumers at constrained nodes. We are interested in better understanding this impact at each GXP, including a quantified effect.
26. Do you agree with our assessment of alternative RTP designs? If not, why not?	26.1	Yes, we agree with the Authority's assessment that Option B (the current dispatch-based RTP proposal) is the best alternative. Refer to our previous submission on "Assessment of real time pricing options"[4] for further details of our views around the alternative RTP options. We note that the majority of submitters (13 out of 15) supported option B during this previous consultation.

[4] http://www.ea.govt.nz/development/work-programme/pricing-cost-allocation/exploring-refinements-to-the-spot-market/consultations/