NZX Limited
Level 1, NZX Centre
11 Cable Street
PO Box 2959
Wellington 6140
New Zealand
Tel +64 4 472 7599

www.nzx.com

10 October 2017

Justin Wood
Electricity Authority
PO Box 10041
Wellington 6143
[By email]

Dear Justin,

NZX submission on real-time pricing proposal consultation paper

Thank you for the opportunity to submit on the real-time pricing proposal consultation paper. Our submission has largely focused on Code and operational requirements relevant to our market operator service provider roles.

In addition to the topics canvassed in the consultation paper's questions, we would also like to discuss the following:

Publication of schedule information

Schedule 13.3B sets out the list of information to be published for each schedule by the system operator. Instead of fixing this list in the Code we suggest an alternative approach, whereby the list is managed by a service provider (either the system operator or WITS manager) and consulted on with industry. The consultation requirements would be similar to those for the clearing manager's prudential security methodologies.

This alternative approach would have the following advantages:

• The consultation process would encourage the list of published schedule information to more fully reflect participant's information needs. Access to information is a cornerstone of a well-functioning market, and;

• Future changes in participant's information needs would be more easily implemented. Such changes may result from changes to market design, changes to market conditions or reducing technology costs allowing more efficient access to data.

Consultation questions

Question	Comment
Q1. Do you agree with the broad principle of using dispatch prices to determine final prices? If not, please explain your reasoning.	Yes
Q2. 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.	Yes. To support this process the list of published dispatch schedule information provided in Schedule 13.3B should include the start time for each dispatch schedule.

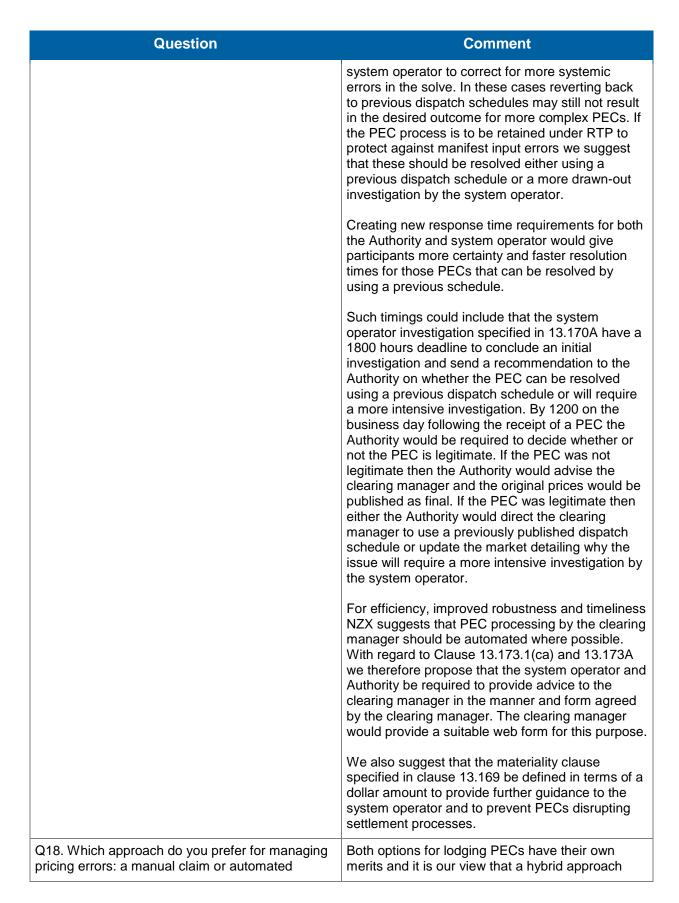| Question	Comment
Q3. Do you agree with disestablishing the pricing manager and allocating residual functions to other parties? If not, please explain your reasoning.	No comment
Q4. Do you agree with the general approach of using default scarcity values to handle generation shortages? If not, please explain your reasoning.	No comment
Q5. Do you agree with using default scarcity bids before generation or dispatchable demand offered at a higher price in the dispatch schedule? If not, please explain your reasoning.	No comment
Q6. 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?	No comment
Q7. What is your view on the preferred treatment of disconnected nodes? Please explain your reasoning.	No comment
Q8. Do you agree that it is not desirable to apply a cumulative price limit under RTP? If not, please explain your reasoning.	No comment
Q9. 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.	No comment
Q10. Do you agree with the proposed removal of the high spring washer pricing provisions in the Code? If not, please explain your reasoning.	No comment
Q11. Do you agree with the proposed changes for demand inputs? If not, please explain your reasoning.	Yes. Load forecasts - referred to as "the expected profile of demand" in the Code - is an important input to the dispatch schedule and hence final prices. To ensure transparency we think it is important that the methodology behind calculating dispatch schedule forecast demand is published in a similar manner to the PRS and NRS schedules. Therefore we suggest that Clause 13.7A is expanded to cover dispatch schedule load forecasts.
Q12. Do you agree that ION meter data should be the primary data source for demand inputs? If not, please explain your reasoning.	Yes. Initiatives such as this should be prioritised as it is an intermediary step to transition to RTP and can

Question	Comment
	increase price certainty for participants by eliminating metering as a cause of provisional prices under the current system.

Clause 13.141 requires the pricing manager to publish demand half hour metering information every day for the previous trading day.

Market demand is a key driver behind wholesale prices. We suggest that the Code should be amended to allow a similar demand half hour metering data set to be published to WITS by either the grid owner or system operator. |
| Q13. What is your view on the best approach to incorporate dispatchable demand within an RTP framework? Please explain your reasoning. | We have two issues with the proposed Code for dispatchable demand:

1. Revising a nominated bid in the trading period before the trading period to which the nominated bid applies:

In our view Clause 13.19A(3A) is no longer necessary.

It was inserted to prevent erroneous constrained amount calculations where changes to nominated dispatch bids were made after dispatch instructions were issued from the NRSS (typically 27 minutes before real time).

This should no longer be an issue given that DCLS are proposed to be dispatched from the dispatch schedule.

2. Constrained calculations for dispatchable demand purchasers

Clauses 13.194(1A) and 13.204(1)(aa) are incorrect and would not result in sensible constrained amount payments for dispatchable demand purchasers.

We suggest that Qfp is calculated using bids and final prices in a similar manner to generator scheduled quantities.

For a constrained off situation we suggest amending 13.194(1A) as follows:
- Retain the existing definition of ConOffQ,
- Amend the definition of Qfp as follows: Qfp is the bid quantity, in MWh, for the nominated dispatch bid price band if the **final price** is |

Question	Comment
	less than or equal to the **bid** price or is zero if, for the nominated dispatch bid price band, the **final price** is greater than the **bid** price, and • Amend the definition of Qdisp as follows: Qdisp is the **dispatched** quantity, in MWh, in the **trading period**, calculated under subclause (2), dispatched for the nominated dispatch bid price band in the trading period. For constrained on situations a similar set of amendments as above would follow for Clause 13.204(1)(aa).
Q14. Do you agree with the proposed features for a dispatch-lite product? If not, please explain your reasoning.	Yes. We recommend that a bespoke WITS interface for these participants is designed to facilitate and encourage the uptake of this market design feature.
Q15. 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.	No comment
Q16. 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.	Using the last offer in the trading period could potentially result in large constrained on amount payments for participants that must revise their bids or offers due to, for example, a bona fide physical reason. This could result in perverse incentives for these participants. The response in the consultation FAQ that these types of events will be monitored by the Authority compliance team raises an enforcement issue as disputing whether a bona fide physical reason occurred may be difficult. This issue could largely be mitigated by calculating scheduled quantities on a time weighted average basis.
Q17. Do you agree we should retain a process for addressing material pricing errors? If not, please explain your reasoning.	No. NZX maintains that keeping the Pricing Error Claim (PEC) process will reduce participant price certainty. Clause 13.177(a) states that the clearing manager must recalculate interim prices as if the dispatch prices error had not been included in the relevant dispatch schedules. This does not allow for the

Question	Comment
	system operator to correct for more systemic errors in the solve. In these cases reverting back to previous dispatch schedules may still not result in the desired outcome for more complex PECs. If the PEC process is to be retained under RTP to protect against manifest input errors we suggest that these should be resolved either using a previous dispatch schedule or a more drawn-out investigation by the system operator. Creating new response time requirements for both the Authority and system operator would give participants more certainty and faster resolution times for those PECs that can be resolved by using a previous schedule. Such timings could include that the system operator investigation specified in 13.170A have a 1800 hours deadline to conclude an initial investigation and send a recommendation to the Authority on whether the PEC can be resolved using a previous dispatch schedule or will require a more intensive investigation. By 1200 on the business day following the receipt of a PEC the Authority would be required to decide whether or not the PEC is legitimate. If the PEC was not legitimate then the Authority would advise the clearing manager and the original prices would be published as final. If the PEC was legitimate then either the Authority would direct the clearing manager to use a previously published dispatch schedule or update the market detailing why the issue will require a more intensive investigation by the system operator. For efficiency, improved robustness and timeliness NZX suggests that PEC processing by the clearing manager should be automated where possible. With regard to Clause 13.173.1(ca) and 13.173A we therefore propose that the system operator and Authority be required to provide advice to the clearing manager in the manner and form agreed by the clearing manager. The clearing manager would provide a suitable web form for this purpose. We also suggest that the materiality clause specified in clause 13.169 be defined in terms of a dollar amount to provide further guidance to the system operator and to prevent PECs disrupting settlement processes.
Q18. Which approach do you prefer for managing pricing errors: a manual claim or automated	Both options for lodging PECs have their own merits and it is our view that a hybrid approach

Question	Comment
checking? Please explain your reasoning (this could include suggestions for an automated filter).	should be taken. Automated checking should be introduced, while still retaining the ability for participants to lodge their own PECs manually. Automated checking will provide greater certainty to the market and reduce the burden on participants to monitor final prices. By retaining the ability for participants to submit manual claims there would be a mechanism to address manifest input errors and where reverting back to a previous schedule would not address the underlying pricing error. Ideally the automated checking system would catch the majority of the PECs, however we believe that the manual claim process should be retained to act as an 'in case of emergency' lever for participants to pull. NZX also suggests that the causes for a PEC in Part 1 Preliminary provisions be amended to include: **pricing error** means an error in an **interim price** or **interim reserve price** is incorrect or is likely to be incorrect, as a result of— (a) an incorrect input being used in calculating the **interim price** or **interim reserve price**; or (b) the **clearing manager** having followed an incorrect process in calculating that **interim price** or **interim reserve price**, in contravention of this Code (c) the system operator having followed the incorrect process for inputs
Q19. If we retain a manual claim process for pricing errors under RTP, who should perform that 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.	No comment
Q20. Do you agree with the proposed treatment of spot prices during market system outages? If not, please explain your reasoning.	Yes. For additional clarity we suggest that Clause 13.134A is amended such that the first sentence of second and third paragraphs are changed to "if there is no dispatch price or dispatch reserve price

Question	Comment
	at the time of calculation”. This would cover the situation where: • One or more dispatch schedules for a trading period are not immediately available after the end of the trading period, • These missing dispatch schedules are subsequently published on WITS after the clearing manager has published interim prices. This could occur, for example, where there is an outage of the communication link between WITS or the clearing manager. In this scenario the system operator would still be preparing dispatch schedules and issuing dispatch instructions. Due to the communication link outage these dispatch schedules would in effect be queued for publication in WITS.
Q21. Do you agree with the proposed changes to forecast schedules to align them with dispatch schedules? If not, please explain your reasoning.	No comment
Q22. 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.	Yes
Q23. Do you agree with the proposed approach for transitioning to RTP? If not please explain your reasoning.	The creation of a five year project to implement RTP creates potentially significant operational and reputational risks to the New Zealand electricity market. Historically large scale projects risk coming in over budget and experience substantial implementation risks once they go live. NZX agrees with Transpower that single stage development and commissioning introduces an unreasonable amount of risk to the market. Transpower's broad categorisation of the project into four stages with four implementation phases will help mitigate these risks. However, it is our view that the delivery phase that Transpower has proposed does not go far enough. Projects of this scale need to deliver value early and often to reduce risk and there are many issues with the current pricing process that can be pursued independently and concurrently with RTP to reduce participant's price uncertainty. An example of this is improving forecast demand schedules or addressing the causes of provisional pricing situations under the current pricing methodology. There are currently a number of

Question	Comment
	pricing situations (metering situations, infeasibilities, high spring washer situations, and scarcity price situations) that occur that decrease price certainty for participants by causing prices to be published as provisional. Using metering situations as an example, the introduction of ion meters as detailed in 3.71 of the consultation paper as the primary source of load metering could eliminate metering situations as a cause for provisional prices entirely. Changes like these should be prioritised as they are an intermediary step for RTP and will increase price certainty for participants during the lengthy transition phase.
Q24. Do you agree with the objective of the proposed Code amendment? If not, please explain your reasoning.	Yes
Q25. 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.	No comment
Q26. Do you agree with our assessment of alternative RTP designs? If not, why not?	No comment

Yours sincerely,

Sam Knight
Energy Analyst
NZX Limited