



6 August 2013

Submissions
Electricity Authority
Wellington

By email: submissions@ea.govt.nz

Dear Sir/Madam

Within-island basis risk

Thank you for the opportunity to provide a submission on the Electricity Authority's (the Authority) consultation paper *Within-island basis risk: proposed approach* published 25 June 2013 (the paper).

EMS, as the FTR Manager, is a service provider to the Authority and the industry. We look forward to progressing the detailed design and implementation of an expanded FTR market, should the Authority decide to recommend this.

In our capacity as FTR Manager we have views on the issues raised in the paper, expressed in our attached responses to the consultation questions. We elaborate the following issues below:

- FTRs in an integrated market design
- LRAs and price distortion
- Number of FTR hubs
- Governance
- Cost-benefit analysis

FTRs in an integrated market design

Short of having a single national energy price, there are two integrated, internally consistent market designs:

- A nodal energy market, with multi-node FTRs
- A zonal energy market, with FTRs between zones

The focus of nodal energy markets is price accuracy, with locational marginal prices. By definition these create locational price risk between and within zones or regions. Such markets send efficient price signals but some consider that through their complexity they reduce effective competition.

A zonal energy market would have the same reference price within a zone, so there would be locational price risk between zones but not within a zone. The focus of zonal energy markets is price simplicity, sacrificing the quality of the price signal for ease of use, to encourage competition.

To have LRAs superimposed (with or without FTRs) on a nodal energy market would be to create price zones, and try to mimic the possible competitive advantages of a zonal system. This would not be an integrated, internally consistent market design.

We agree that introducing a zonal energy market is outside the scope of this workstream and consultation. This workstream should accept that New Zealand has decided on a nodal pricing market, and add the appropriate FTR regime to make it an integrated whole. If and when – through a different workstream – a decision is made to change to a zonal energy market, then the FTR regime can and should be adjusted around the zones.

We believe that the focus of this debate should be on the evolution of the FTR market design to best support our nodal energy market. The notion of LRAs now or in the future should be abandoned.

We agree with the Authority's preliminary conclusion of introducing a multi-node FTR market.

LRAs and price distortion

Another reason that LRAs should be abandoned is that they distort nodal prices. The paper accepts that no option should be considered that introduces a material distortion to efficient price signals in the wholesale market. The paper considers that the LRA designs currently under consideration would largely avoid this problem, while acknowledging that this point is not universally agreed.

To be non-distortionary, the cost of a change in demand (say 1MW) has to reflect the marginal impact on system cost. Under LRAs, this cost to the purchaser would be the nodal price less any increase in LRA rebate resulting from an change in demand. Thus, to be non-distortionary, the LRA rebate would need to not change materially with a change in demand.

However, for an LRA payment based on a function of historical prices and/or quantities (as is proposed), then a future LRA payment must be affected by some or all current action, and so the price gets distorted. If the time scale of averaging is extended to years (as is proposed) then the distortion will be diluted by the time value of money.

Further, the paper usefully divides WIBR into spikes and tidal flows. As the number of FTR hubs increases, so the LRA zones become smaller and more peripheral to the core grid. Such zones will be less affected by the risk of reversing tidal flows and hence that risk becomes much reduced, as does any benefit of using LRAs to suppress it.

The Authority's Transmission Pricing Methodology (TPM) consultation includes a proposal to allocate residual LCE to offset the components of transmission charges that correspond to the origination of the rentals. As the proposed TPM does not include reference nodes, this must be a quite different allocation from LRAs. Which would be the more efficient allocation of LCEs residual to the FTR Market – LRAs or TPM? We believe the latter.

For these reasons we believe LRAs should be removed from the current short-list, and excluded from future consideration as an option for supporting a multi-hub FTR market superimposed on a nodal energy market.

Number of FTR hubs

The paper presents an analysis of historical WIBR and proposes seven to nine hubs, with an additional seven as adding ‘relatively little’ value and so not recommend at this point.

We find the number seven to nine smaller than we expected, as:

- Previous Authority analyses indicated significantly more hubs^{1, 2, 3}
- The analysis is historical and, as the paper acknowledges, things change: it is desirable in many ways to introduce risk management products before risks become reality
- Some major generation or load centres are not included
- A market rather than central planning approach would be to open up the market to as many hubs as possible, and let traders decide which they choose to bid on and how they choose to value them
- Other FTR markets have much larger numbers of hubs, which prove very popular with traders

There appears to be a view that an increased number of hubs will add to complexity to traders. This is not necessarily so – more hubs can make it simpler for traders. It is appropriate, as the paper does, to assume that reconfiguration auctions will be in place: the industry has strongly signalled these as a priority for FTR development. Reconfiguration auctions allow FTR holders to offer their FTRs for sale at a reserve price. What is not widely appreciated is that these auctions will literally ‘reconfigure’ FTR products. That is, one could offer an A-B FTR which would be accepted by the auction to release capacity to award C-D FTRs. Thus, with reconfiguration auctions, participants can trade FTRs between the hubs that best match their energy trading positions, with others having different positions, without worrying about any lack of liquidity that this may cause.

We do not currently have a view on the appropriate number of hubs, as this is a matter primarily for the traders seeking to cover their own requirements for future WIBR management, with the Authority seeking a coherent market design that encourages competition. We look forward to the outcomes of the consultation.

Governance

Some of the topics raised later in the paper, that result in questions 14, 17 and 18, raise issues of whether the Authority or the FTR Manager is primarily responsible for various aspects of the FTR Market.

We believe that considering the hierarchy of control of and responsibility for the FTR market provides a useful and appropriate framework for considering who should take responsibility for progressing such issues:

¹ *Within-island Basis Risk, Prepared by Energy Link For The Electricity Authority, May 2012: 19 regions in NI and 6 in SI (with correlation = 0.7, higher numbers with higher correlations)*

² *Authority’s within-island basis risk: Characterising the risk, 20 November 2012: ‘Dendogram’ analysis 10-16 in NI, 10-14 in SI*

³ *Authority’s within-island basis risk: Quantifying the risk, Preview of statistical analysis for the LPRTG, January 2103: considered 18 regions to be reasonably robust to assumption of analysis*

	Responsibility
Code	Authority
Service provider agreements	Authority
FTR Allocation Plan	FTR Manager, consistent with the Code and the FTR Manager service provider agreement (The Authority approves – or not – the FTR Manager’s proposals for variations to the FTR Allocation Plan)
FTR Policies	FTR Manager, consistent with the FTR Allocation Plan (The division of detail between the FTR Allocation Plan and FTR Policies will be the subject of consultation on the FTR Allocation Plan 2013)

In considering responsibility for FTR issues, we believe that it is useful and appropriate to base this on the level of the issue and its documentation, be it the Code, the FTR Manager (or Clearing Manager or Pricing Manager) service provider agreement, the FTR Allocation Plan or FTR Policies.

Cost-benefit analysis

As FTR Manager we have found the analysis of hub/node configurations is significantly more complex with the addition of more nodes. Nexant provides an off-line version of its i-Hedge market system for market analysis at a modest cost and it would be beneficial if the FTR Manager purchased a copy for future modelling purposes. This will increase the costs to the upper end of the range of estimates provided by the FTR Manager.

The analysis of costs under the two-node hybrid model (Table 10) appears light both in the Clearing Manager assessment of costs and the ongoing analytical resource costs of participants and the Authority. The Clearing Manager costs for LRA project implementation seems very light for an entirely new system that has not been designed. An average FTR of 0.1 appears to be low for each of the assumed 20 organisations to cover the additional tasks for the roles of portfolio analyst, financial accountant and market performance analyst. Any error in the assessment of this average FTE will have a significant impact on the final PV outcome.

If you wish to clarify any of the points raised please contact me on 04 590 6802.

Yours sincerely



Richard Rowell
Energy Markets Manager

Appendix A – Responses to Consultation Questions

Question	FTR Manager Response
<p>Q1 Do you agree that the Authority has characterised the problem of WIBR correctly? If not, how could the problem be better described?</p>	<p>Broadly yes. However we believe that WIBR is likely to be significantly more than one-third of total locational price risk (LPR) referred to: the remaining two-thirds includes the intra-island risk between OTA and BEN. That is, OTA, BEN <u>and intermediate hubs</u> could have addressed two-thirds of total historical LPR.</p> <p>We are concerned also that, while the paper acknowledges the limitations of its backward looking analysis and that there may be material LPR in other areas, that analysis seems to have driven the paper's conclusions on number and location of hubs. This is further explained in response to question 13, and discussed in the covering letter.</p>
<p>Q2 Do you agree that these four options are an appropriate shortlist? If not, are there other options that should be considered?</p>	<p>We are surprised that LRAs are on a WIBR shortlist. We believe that they should not be considered further as locational risk management instruments as they are:</p> <ul style="list-style-type: none"> • Not tradeable • Distortionary to nodal prices • Inferior to a zonal pricing solution <p>See our cover note for the reasons.</p>
<p>Q3 Do you agree that the four options in Table 2 need not be considered at this stage? If not, which of them should be considered and why and what other options should be considered and why?</p>	<p>We agree that zonal pricing should not be in the scope of this project, as it is a much wider energy market issue. Rather, the LPR project should assume a fully nodal energy market and hence that nodal price signals should be preserved.</p> <p>Full FTR coverage would be a more efficient solution than LRAs, so in that sense it should be on the short list. We are not advocating it, but do suggest that excluding this option implies that the multi-point FTR option should not be categorised as 'several' new nodes but rather as 'several or many', so that the full spectrum of possibilities is considered.</p>

Question	FTR Manager Response
Q4 Do you agree that the two-node hybrid option has been characterised correctly? If not, how could it be better described?	We do not believe that this option would retain efficient price signals, for the reasons explained in the cover letter.
Q5 Do you agree that the three-node FTR option has been characterised correctly? If not, how could it be better described?	Yes
Q6 Do you agree that the three-node hybrid option has been characterised correctly? If not, how could it be better described?	We do not believe that this option would retain efficient price signals, for the reasons explained in the cover letter.
Q7 Do you agree that the multi-node FTR option has been characterised correctly? If not, how could it be better described?	Yes, except that the number and location of hubs needs, we believe, more input from traders on their forward-looking needs. Hopefully that will eventuate from this consultation.
Q8 Do you agree that all four high-level options are feasible? If not, why not	Yes
Q9 Do you agree that all four options would avoid distortion to price signals? If not, why not?	No. We believe that LRAs would distort price signals, for the reasons explained in the cover letter. In short, if the LRA payment is based on <u>any</u> function of historical prices and/or quantities (as is proposed), then a future LRA payment <u>must</u> be affected by some or all current action, and so the price gets distorted.
Q10 Do you agree that the criteria in Table 7 are reasonable and roughly equal in priority? If not, why not? Should other criteria relating to competition, reliability or efficiency be considered?	Yes, but the criterion of avoiding distortion to price signals should be added, as this issue is critical but different between options, as explained above.

Question	FTR Manager Response
<p>Q11 Do you agree that the multi-point FTR would promote the Authority's statutory objective most effectively? If not, why not, and which option do you think would most support the statutory objective?</p>	<p>Yes</p>
<p>Q12 Do you agree that the multi-point FTR would produce a greater net benefit than any of the other options? If not, why not, and which option do you consider would produce the greatest net benefit?</p>	<p>Yes</p>
<p>Q13 If the decision is to proceed with the multi-point FTR, which FTR points do you consider should be added at this point, and why?</p>	<p>We do not have a firm view on this, but have some concern over basing the decision primarily on historical analysis, and taking a conservative view on numbers of hubs, as the paper does.</p> <p>Given uncertainty, we believe that there are strong arguments for choosing more rather than fewer hubs, and letting the traders decide which they value.</p> <p>Please see the cover letter for further discussion.</p>
<p>Q14 Do you agree that, if the decision is to proceed with the multi-point FTR, the new FTR points should generally be nodes rather than hubs? If not, why not?</p>	<p>There are technical issues here to do with FTR transfer capacity, as the paper acknowledges. We believe this is an operational issue best left to the FTR Manager to determine in consultation with FTR participants.</p>
<p>Q15 Do you agree that, if the decision is to proceed with the multi-point FTR, the new FTRs should be point-to-point rather than radial? If not, why not?</p>	<p>Yes</p>
<p>Q16 Do you agree that, if the decision is to proceed with the multi-point FTR, the new FTR products should include a full selection of options and obligations? If not, why not?</p>	<p>Yes</p>

Question	FTR Manager Response
<p>Q17 Do you agree that, if the decision is to proceed with the multi-point FTR, the Authority should proceed according to the roadmap set out in Figure 7? If not, how should the Authority proceed?</p>	<p>No. We believe that this would prolong the regulatory uncertainty that has plagued the LPR debate for over a decade, and put the Authority into too much of an operational role.</p> <p>The Authority should (following its guidance to the FTR Manager resulting from this consultation) focus on evolving the Code and managing the FTR Manager service provider contract.</p> <p>The FTR Manager should, through the FTR Allocation Plan variation process (which requires Authority approval), evolve the details of the FTR market in accordance with the Code and industry demand.</p> <p>For efficiency and regulatory certainty, the Authority should dismiss LRAs from further consideration. Further efficiencies can then be gained by replacing Schedule 14.6 by a much simpler allocation of a fixed proportion of interconnection and HVDC rentals to the FTR market.</p>
<p>Q18 Do you agree that, if the decision is to proceed with the multi-point FTR, the Authority should develop objective criteria for adding and removing FTR nodes in future years? What should be taken into account in developing these criteria?</p>	<p>No. Any objective criteria for adding and removing FTR nodes in future years would be best placed in the FTR Allocation Plan or in FTR Policies, rather than in the Code.</p> <p>Any such criteria should therefore be developed by the FTR Manager.</p> <p>We do not believe that this is urgent, but rather that some experience with multiple node FTR operations will guide the development of such criteria.</p>