Managing locational price risk: proposal consultation

Summary of Submissions

Prepared by Electricity Authority

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Executive summary

This paper provides a summary of submissions for the consultation paper *Managing locational price risk: proposal* (**consultation paper**). Fourteen parties provided submissions in response to the consultation paper.

The paper first provides a summary by issue that generally follows the structure of the consultation paper. A summary of each submitter's submission follows and an appendix is attached with submitters' responses to the questions posed by the consultation paper.

Contents

1. Introduction and purpose of this paper

1.1 Introduction

1.1.1 The Electricity Authority (Authority) is continuing to undertake a Market Development Programme (MDP) that draws together and prioritises initiatives that are focused on improving the performance of the electricity market. The MDP initially began under the Electricity Commission (Commission) and integrated the outputs of two Commission reviews - the Market Design Review and the Winter 2008 Review. It also drew on the outcome of the Commerce Commission investigation into the electricity market.

1.1.2 The MDP comprises a number of inter-related projects, one of which is the Managing Locational Price Risk project. This project involves the assessment and development of a mechanism to manage locational price risk – a "locational hedge".

1.1.3 The development of a locational hedge has progressed to the stage where the key elements for a design have been proposed and a cost benefit-analysis of this proposed option undertaken. A consultation paper was published on 13 September 2010 and submissions closed on 22 October 2010.

1.1.4 This summary of submissions has been written by the Authority, which replaced the Commission on 1 November 2010. However, the consultation paper, on which submissions were made, was released by the Commission. References are made to both organisations in this paper.

1.2 Purpose of this paper

1.2.1 This paper summarises the submissions received on the consultation paper. This includes a summary by issue (section 2), a summary by submitter (section 3) and a table of submitters' responses to questions (Appendix A). This paper does not provide comments on submitters' views.

1.2.2 The submissions and this paper will assist the Authority in progressing analysis and development of the design of the Authority's preferred option for a managing locational price risk.

1.3 Submissions received

1.3.1 Fourteen parties provided submissions. Copies of all submissions are available at: http://www.ea.govt.nz/our-work/consultations/priority-projects/lpr-management-proposal/.

1.3.2 The organisations that made submissions are listed in Table 1.

Table 1: Submitters

Generator/retailers	Consumers	Others
Contact Genesis Meridian Mighty River Power Todd Energy (late) Trustpower	Major Electricity Users' Group (MEUG) Norske Skog Pan Pac Rio Tinto Alcan	David Reeve Electric Power Optimization Centre (EPOC), University of Auckland NZX Energy Transpower

2. Summary of submissions by issue

2.1 Structure and overview

2.1.1 This summary of submissions by issue closely follows the structure of the consultation paper (outlined below). At the start of the summary of submitters' views on each issue, a shaded box provides a high level summary of the submitters' views.

2.1.2 The consultation paper described the following:

(a) Background to the consultation paper including the Government's policy objectives, previous consultation and evaluation undertaken, and the approach taken in the consultation paper.

(b) Locational pricing and risk. This section discussed what the locational price risk problem is and potential ways of solving the problem and was structured as follows:

(i) description of what locational price differences are;

(ii) description of locational rentals;

(iii) definition of locational price risk and establishing the sources of locational price risk;

(iv) discussion of how rentals are currently allocated and the implications of this allocation;

(v) discussion of why locational price risk is a problem;

(vi) consideration of existing options for managing locational price risk;

(vii) discussion of potential other options for managing locational price risk; and

(viii) description of the options selected for inclusion in the proposal.

(c) The Commission's proposal. This section set out in detail the proposal for a inter-island FTR and was structured as follows:

(i) establishment of the reason for the proposal;

(ii) summary of the proposed solution;

(iii) outline of the proposed specification in the Code, schedule to the Code, and contract with the FTR service provider;

(iv) establishment of the locational price risk coverage of the proposed solution;

(v) outline of how inter-regional locational price risk would be managed under the proposed solution;

(vi) description of how revenue adequacy would be managed;

(vii) outline of key product details of the proposed inter-island FTR;

(viii) consideration of how residual revenue would be allocated;

(ix) discussion of how abuse of market power would be discouraged;

(x) establishment of service provider responsibilities;

(xi) establishment of how the proposed solution would be funded; and

(xii) discussion of the implications of the proposed solution for retail competition.

(d) The evaluation of the proposal, including cost-benefit analysis (sections 6.2, 6.3 and Appendix 3), qualitative evaluation (section 6.4), and risk analysis (section 6.5).

2.1.3 While verbatim responses to all of the questions posed in the consultation paper are provided in Appendix A, Section 2 specifically summarises submitters' views on each issue raised in the consultation paper.

2.1.4 References to relative numbers of submitters (in terms such as "most submitters"), or where levels of relative support or dissent are expressed, are made with respect to the quantum of submitters that chose to provide a response to the specific question or issue being discussed. This reflects that some submitters either did not provide responses to any of the specific questions using the requested template (Pan Pac, Todd Energy) or provided a blank response or a comment such as "no comment" to a specific question.

2.2 Background section of the consultation paper

2.2.1 This section of the consultation paper covered background on:

(a) The requirements for the Commission in the May 2009 Government Policy Statement on Electricity Governance (GPS);

(b) The requirements in the Electricity Industry Bill (Bill);

(c) Previous consultation on managing locational price risk;

(d) Supplementary evaluation undertaken by the Commission in 2010; and

(e) The approach taken in the consultation paper.

Issues relating to background, previous analysis and consultations

A number of submitters felt that other initiatives, such as the Transmission Pricing Methodology and asset swaps, needed to be progressed before a locational hedge mechanism is implemented. However, one submitter felt an FTR mechanism should be introduced as soon as practicable. Three submitters believed there were no other issues relating to the background, previous analysis and consultations that were relevant to the Commission's proposal.

2.2.2 Submitters felt that the following issues relating to the background, previous analysis and consultations needed to be further considered:

(a) the impact of transmission investment (Meridian, Contact);

(b) integration of MDP initiatives (Mighty River Power, TrustPower);

(c) alignment with and resolution of the Transmission Pricing Methodology (TPM) review (Meridian, Contact, TrustPower);

(d) the impact of asset swaps (Contact);

(e) the impact of ASX hedge market development (Contact);

(f) the outcomes of the Ministerial Review (Meridian);

(g) delay of the implementation of a locational price risk mechanism until the impact of other market initiatives were known (Mighty River Power, Pan Pac);

(h) appropriate market monitoring and oversight processes to reduce the incentives for abuse of market power (EPOC);

(i) the introduction of obligation FTRs only in the first instance (because option FTRs could contribute to revenue inadequacy) (EPOC); and

(j) the availability horizon (EPOC).

2.2.3 In contrast to Mighty River Power's view, Genesis submitted that the FTR mechanism should be introduced as soon as possible.

2.2.4 Norske Skog, Rio Tinto Alcan and MEUG submitted that there were no other issues relating to the background, previous analysis and consultations that are relevant to consideration of the Commission's proposal.

2.3 Locational pricing and risk section of the consultation paper

2.3.1 This section of the consultation paper discussed the locational price risk problem and potential ways of solving the problem. This section included discussion of the size of the problem, how loss and constraint rentals are currently allocated, and existing and potential options for managing locational price risk.

Apportionment of contributing factors to locational price risk

Most submitters agreed with the apportionment of contributing factors to locational price risk set out in the consultation paper, but some submitters felt that the time period that the Commission used to analyse the contributing factors was not representative.

2.3.2 Seven submitters broadly agreed with the apportionment of contributing factors (losses, line constraints and reserve constraints) to locational price risk set out in the consultation paper. Rio Tinto Alcan and TrustPower agreed with no caveats, while the other five other submitters noted some caveats to their agreement:

(a) Meridian noted that their support was dependent on outcomes from the review of the TPM;

(b) Contact and Mighty River Power noted that the apportionment reflected historical data, but not necessarily future locational price risk;

(c) Genesis believed that the percentage of risk cover from the proposed FTR was overstated because the Commission had not considered earlier data which would have shown a bigger impact from HVAC constraints; and

(d) Transpower said that it technically agreed with the apportionment, but that it was not the main issue and that from a trading perspective the important issue is that resultant prices are volatile.

2.3.3 Norske Skog did not agree with the apportionment of contributing factors to locational price risk because the definition of locational price risk in the Electricity Industry Bill did not include losses.

Analysis of future locational price risk

Opinions were divided on the Commission's analysis of future locational price risk. Some submitters felt that the analysis did not put sufficient weight on the impact of transmission investment and existing commercial arrangements. However, other submitters felt that inter-island price differences would continue to be a key source of locational price risk and that transmission investment would not eliminate intra-island locational price risk. Submitters were divided on whether the volatility of losses had a material impact on inter-island locational price risk.

2.3.4 Submitters were split on whether the predominant source of locational price risk would continue to be inter-island price differences. Genesis, Rio Tinto Alcan and Transpower all agreed that inter-island price differences would continue to be the predominant source of locational price risk. Genesis submitted that the HVDC will always be a key source of locational price risk (even after commissioning of Pole 3). Both Genesis and Transpower noted that even though inter-island locational price risk would remain predominant, regional locational price risk could also be an issue.

2.3.5 Norske Skog and David Reeve did not agree that inter-island price differences would necessarily remain the predominant source of locational price risk. David Reeve felt that the Pole 3 upgrade of the HVDC would mitigate a great deal of inter-island price volatility, while spring washer activity could easily become the predominant source of locational price risk. Norske Skog submitted that Appendix 4 of the consultation paper showed that the Commission did not believe that inter-island price differences would remain the predominant source of locational price risk.

2.3.6 Four submitters agreed that grid investment should minimise intra-island locational price risk, while three submitters disagreed. Mighty River Power, Norske Skog, Rio Tinto Alcan and TrustPower all thought grid investment should minimise intra-island locational price risk, although Mighty River Power submitted that some intra-island locational price risk would remain. TrustPower also noted it was unlikely to be economic to build out all constraints on the grid completely, and that generator behaviour in the future may be significantly different to that observed previously and it was hard to assess how power flows across the grid may change as a result.

2.3.7 Genesis, Transpower and Todd Energy did not believe that grid investment would minimise intra-island locational price risk:

(a) Genesis believed that intra-island locational price risk would continue to influence retail prices and dampen retail competition in some regions under the proposed solution.

(b) Transpower submitted that the assumption that increased capacity will reduce locational price risk did not take into account modified behaviour in the presence of FTRs, scarcity pricing and a superior energy hedge market. Transpower also noted that even with increased transmission investment, congestion may increase because participants will be better able to tolerate congestion if they can hedge against it – this may be more efficient than offering generation to avoid congestion.

(c) Todd Energy submitted that the recent period of low constraint levels in the North Island had been in part due to a number of tactical grid upgrades undertaken by Transpower. Todd Energy thought that the opportunities for the same sorts of low cost incremental enhancements were fewer now, and based on the assumption of future demand growth, intra-island constraints were likely to re-emerge at some point in the future.

2.3.8 David Reeve noted that while transmission investments or operational changes may be economic in reducing the incidence of spring washers, in the time it takes for these initiatives to be undertaken some parties could face considerable locational price risk.

2.3.9 Submitters were also split on whether the volatility of losses had a material impact on inter-island locational price risk. Four submitters (Genesis, Rio Tinto Alcan, Transpower and TrustPower) agreed that the volatility of losses would have a material impact. Genesis noted that this provided a case for covering loss rentals with an FTR mechanism, but did not believe the FTR should include loss costs. TrustPower submitted that volatility of losses is influenced strongly by the respective offer prices in each island and the direction of flows across the HVDC.

2.3.10 Four submitters (Mighty River Power, Norske Skog, David Reeve and Contact) did not believe that losses had a material impact on inter-island locational price risk. Mighty River Power, David Reeve and Contact all noted that the volatility in losses is relatively predictable. David Reeve also noted that tidal effects tend to change relatively slowly and in response to highly transparent hydrological conditions.

Impact of locational price risk on retail competition

A number of submitters agreed that locational price risk was an impediment to retail competition, but some of these submitters felt that other initiatives, such as transmission investment and asset swaps, may be sufficient to improve retail competition. Some submitters felt that the Commission had overstated the extent of locational price risk.

2.3.11 Submitters held a wide range of opinions on how much locational price risk impacted on retail competition.

2.3.12 Genesis and Transpower agreed that locational price risk is, and will continue to be, a serious impediment to retail competition. Genesis submitted that locational price risk dampens retail competition in some regions and will continue to do so until a robust solution for managing locational price risk is implemented. Transpower believed that without the ability to hedge locational price risk associated with an energy hedge market, third parties are likely to consider it risky to enter the energy derivatives market, leading to competition not improving in some constrained regions.

2.3.13 Rio Tinto Alcan felt that locational price risk was clearly a current impediment to retail competition, but was not sure it would remain such an impediment after significant transmission build that has been approved is completed.

2.3.14 David Reeve and MEUG felt that locational price risk was a factor that limited retail competition, but questioned how big an impediment it was. David Reeve thought that the seriousness of locational price risk may have been overstated in comparison to other potentially serious impediments to retail competition and felt that although addressing locational price risk was important, it may not improve retail competition to its maximum potential. MEUG submitted that once Pole 3 and other investments are completed, locational price risk may become less of a problem.

2.3.15 Mighty River Power submitted that locational price risk will only influence retail competition if congestion risk is high and there is a lack of locational instruments. Mighty River Power thought that transmission upgrades, hedge market development, and physical and virtual asset swaps may be sufficient to manage locational price risk in the short to medium term.

2.3.16 TrustPower questioned to what extent locational price risk was a major cause of any perceived lack of retail competition, and questioned if there was in fact a lack of retail competition.

2.3.17 Meridian and Contact both thought that the extent of locational price risk could have been overstated and that the Commission had not taken into sufficient account the outcomes from the Ministerial Review designed to promote retail competition. Meridian felt that the Commission had understated the impact that HVDC Pole 3 will have on locational price risk, while Contact thought the analysis of retail competition was outdated and of limited benefit.

2.3.18 Norske Skog submitted that asset swaps, mandatory inter-island hedges, and a liquid hedge market should improve retail competition.

2.3.19 Pan Pac believed it was wishful thinking to think that a locational hedge would facilitate new retailers into the market because there were far greater barriers to such entries.

Other factors impeding retail electricity competition

Submitters noted a range of other factors that could be impeding retail competition. These factors included the lack of pass through of loss and constraint rentals from distributors to retailers/load, prudential security requirements for participation in the wholesale electricity market. A couple of submitters noted that the Ministerial Review had assessed issues impeding retail competition and some submitters felt there was a need to allow other measures already implemented to settle before introducing any more measures to help improve retail competition.

2.3.20 Submitters submitted that other factors that could be impeding retail competition included:

(a) prudential requirements (MEUG, Norske Skog, TrustPower);

(b) poor pass through of rentals from distributors to retailers (Mighty River Power and TrustPower) / the rebate of HVAC rentals to distributors (Genesis);

(c) distribution pricing principles (TrustPower), distribution terms and conditions (Model use of System agreements) particularly prudential requirements (MEUG) and distributor pricing structures (Mighty River Power)[1]

(d) the poorly functioning interface between distributors and retailers (Genesis);

(e) the large number of distributors in New Zealand (Mighty River Power);

(f) access to distribution networks (TrustPower);

(g) underinvestment in transmission over the last few decades (although this is currently being resolved) (Mighty River Power);

(h) liquidity in the energy hedge market (Transpower);

(i) regulatory compliance costs (TrustPower); and

(j) hydro inflow risk (EPOC).

2.3.21 Meridian and Contact noted that the Ministerial Review had assessed the issues impeding retail competition. Meridian and David Reeve both felt that other changes to the electricity market needed to be allowed to settle before considering additional measures for facilitating retail competition.

[1] MRP later retracted this comment to match their submissions on 'more standardisation of distribution tariffs and use of system agreements' project currently underway by the Authority,

Need for specific locational hedge solution introduced through the Electricity Authority Participation Code

A number of submitters believed that a locational hedge, introduced through the Code, was required for participants to effectively manage locational price risk. Some of these submitters noted that access to loss and constraint rentals was required for locational price risk to be effectively managed. However, two submitters believed that a locational hedge instrument was not needed.

2.3.22 Meridian, Genesis, Rio Tinto Alcan and Transpower agreed that locational price risk is a problem that requires a specific locational hedge solution introduced through the Code:

(a) Meridian's agreement was conditional on the apportionment of constraint rentals being diverted directly to retailers rather than allocated to lines companies as they currently are.

(b) Genesis noted that effective management of locational price risk required a matching revenue stream, which can only be obtained through access to the loss and constraint rentals pool.

(c) Rio Tinto Alcan believed that an appropriate solution to managing locational price risk was needed and that it seemed appropriate to introduce this through the Code.

(d) Transpower noted that because locational price risk is equal to the market settlement surplus it seemed unreasonable to expect market participants to voluntarily implement a locational hedge market.

2.3.23 Mighty River Power, Norske Skog and Pan Pac did not believe there was a need for a specific locational hedge solution introduced through the Code:

(a) Mighty River Power was not convinced that an additional tool was immediately required in the New Zealand market (beyond transmission upgrades, hedge market developments etc).

(b) Norske Skog did not believe that FTRs or any market or similar instrument were required at all to manage locational price risk, because the ASX exchange provides a simpler method of doing so.

(c) Pan Pac did not consider that the locational price risk problem was of great significance when all things are considered, and believed and move now was premature.

2.3.24 TrustPower agreed that inter-island locational price risk was a material issue, but was not convinced that a scheme requiring active participation was the best option for improving retail competition. TrustPower also noted that South Island generators currently have a means of managing inter-island locational price risk by receiving HVDC rentals, and if the right to these rentals were to be removed

then there would be a more considerable and immediate case for a specific locational hedge solution. However, TrustPower believed that until such time as that change occurred, it would be prudent to wait for the impact of the asset swaps to be truly understood.

2.3.25 Contact thought that the issue of whether locational price risk was a problem that requires a specific solution introduced through the Code was secondary to whether there was a proven need for a financial locational price risk mechanism in the first place.

2.4 The Commission's proposal section of the consultation paper

2.4.1 This section of the consultation paper set out the Commission's proposed mechanism for managing locational price risk and discussed design details of the proposal. This included outlining the proposed specification in the Code, schedule to the Code, and contract with the FTR service provider, outlining key product details, establishing service provider responsibilities, and establishing how the solution would be funded.

Use of the FTR service provider contract to manage future developments of the FTR product

All submitters who responded to this question agreed that the FTR service provider contract should be used to manage future development of the product. Submitters believed that this would provide the flexibility for the product to adjust to changes in the needs of participants. However, some submitters noted some caveats to their agreement, such as making sure that policy issues were dealt with in the Code, and ensuring that the FTR service provider had sufficient expertise to develop the FTR product as needed.

2.4.2 Meridian, Contact, Genesis, Mighty River Power, Norske Skog, Rio Tinto Alcan, David Reeve, Transpower, MEUG and NZX all expressed some support for using the FTR service provider contract to manage future development of the product.

2.4.3 Meridian, Contact, Rio Tinto Alcan and NZX all noted that including specifications of the product in the FTR service provider contract would provide future flexibility.

2.4.4 Transpower felt that the Code should be based on economic principle rather than be operational in nature. Transpower believed that FTR participants should be able to work with the FTR service provider to determine design details, implementation and evolution of the FTR market, with the role of the Authority to assess the FTR design against requirements of the Code.

2.4.5 Genesis believed that minimising the level of detail in the Code should not be the Commission's objective. In general, Genesis felt that:

(a) policy matters should be dealt with in the Code;

(b) commercial matters should be dealt with in the FTR service provider contract; and

(c) matters of a more operational nature should be left with the FTR service provider.

2.4.6 NZX submitted that:

(a) the FTR service provider needed to have sufficient expertise to introduce an FTR product;

(b) there needed to be a robust monitoring regime in place; and

(c) the FTR service provider needed, in conjunction with the Commission, sufficient authority to make decisions in situations where no industry consensus is reached.

Proposed exclusion of loss costs from the FTR

Submitters' views were split on whether loss costs should be included or excluded in the coverage of the FTR. Submitters who agreed with the Commission that loss costs should be excluded believed it was useful to preserve a degree of locational differentiation, and would contribute to ease of understanding and calculation. Submitters who thought loss costs should be included believed it would simplify the product, would encourage more widespread participation, and was the international norm.

2.4.7 There was a wide range of views on the inclusion or exclusion of loss costs in the FTR. Three submitters agreed with the Commission that loss costs should not be included in the FTR:

(a) Genesis believed that excluding loss costs helped preserve a degree of locational differentiation and noted that it was useful that prices still reflect the economic cost of shipping electricity over a long distance, preserving the economic advantage of locating load and generation close together.

(b) NZX felt that for ease of understanding and calculation, the whole of the loss and constraint rental should be included in the auction, but not loss costs.

(c) Rio Tinto Alcan noted that this would need to be monitored – if uptake of the FTR is poor, then the design of the FTR is not meeting the needs of participants and should be changed.

2.4.8 Four submitters thought that loss costs should be included in the FTR:

(a) Mighty River Power believed that including loss costs would simplify the product for users.

(b) Norske Skog said that the Commission should examine revenue adequacy in detail and design an auction that is simultaneously feasible in the presence of losses.

(c) Transpower believed that the proposed exclusion of loss costs resulted in a complex and unpredictable payment against FTRs that is unnecessary and will detract from the utility of the FTR as an effective hedge. Transpower believed that a much simpler product design based directly on unadjusted locational price differences was preferable and possible (and the international norm).

(d) TrustPower felt that inclusion of loss costs in the FTR would enable simpler benchmarking between South and North Island energy prices, and would allow participants to price (and complete) their own swaps using the FTRs without wearing any loss risk.

2.4.9 It was not clear what other submitters' views on the exclusion or inclusion of loss costs were.

Interaction of locational hedge and scarcity pricing regime

Views were mixed on whether or not the proposed inter-island FTR limited design options of a scarcity pricing regime for the electricity market. Four submitters agreed with the Commission that the proposal did not limit design options for a scarcity pricing regime. However, other submitters felt that the proposal would not work with a nodal or regional scarcity pricing regime, and that the FTR would need to be evolved to be able to manage the locational price risk associated with a nodal/regional scarcity pricing regime, if such a regime were introduced.

2.4.10 Four submitters (Genesis, Rio Tinto Alcan, TrustPower and Meridian) agreed that the inter-island FTR proposal did not limit the design options of a scarcity pricing regime. Genesis noted that the flexibility and scalability of the proposal meant it should be reasonably straightforward to adjust the locational price risk mechanism due to changes if needed to account for scarcity pricing design decisions.

2.4.11 Rio Tinto Alcan believed that the proposed solution would be complimentary to separate North Island and South Island scarcity price zones (should that be the preferred design).

2.4.12 TrustPower noted that if scarcity pricing were implemented on a more granular level than island-wide, then a tool to manage the associated locational price risk must also be introduced.

2.4.13 Meridian agreed that the proposed inter-island FTR did not limit the design options for a scarcity pricing regime, but believed that initiatives such as scarcity pricing should be implemented ahead of locational hedging.

2.4.14 Mighty River Power and David Reeve did not agree that the proposed inter-island FTR option did not limit the design options of a scarcity pricing regime for the electricity market. Mighty River Power believed it would not make sense to implement an instrument that deals with the majority of locational price risk, and then to introduce a scarcity pricing mechanism which increased locational price risk which is not hedged by the locational hedge.

2.4.15 David Reeve believed that given the inter-island FTR provided no intra-island locational price risk management, it would be highly risky to select a nodal scarcity pricing regime. However, David Reeve did not see this as necessarily a problem. He noted that New Zealand does not have a transmission contract or pricing regime consistent with a nodal (or regional) scarcity price in any case.

2.4.16 Transpower said that it needed to be determined at what level scarcity pricing will apply. Transpower noted that it was important to ensure that FTR hubs/nodes could be evolved over time by the FTR provider and industry to ensure a match with any scarcity pricing regime that is introduced.

2.4.17 Contact believed that scarcity pricing may actually reduce the need for a regulated locational price risk mechanism. This was because scarcity pricing is likely to have the effect of providing clarity around the value of supply (or non-supply) at the top of the supply curve, and because these values will be transparent, they will contribute to reducing the unpredictability of locational price risk.

GWAP hubs versus nodes

Most submitters supported using major nodes rather than GWAP hubs. Submitters thought that using nodes would be simpler and better aligned with the energy hedge market. However, a few submitters supported the use of GWAP hubs because they would reduce the ability of participants to exercise market power and would remain relevant as generation and grid configuration change over time.

2.4.18 Nine submitters disagreed with the Commission's proposal to use GWAP hubs rather than nodes. Reasons for this disagreement were:

(a) Meridian – the computation requirements for the GWAP proposal were too great;

(b) Mighty River Power – it was preferable that FTRs align with the electricity hedge market (which uses nodes);

(c) Norske Skog – using physical nodes would simplify the revenue calculations and would support the energy market better;

(d) David Reeve – the usability benefits (in being more directly complementary with energy hedge nodes) of nodes outweigh the benefits of using GWAP hubs;

(e) Transpower – using GWAP hubs introduces unnecessary basis risk between energy purchase endpoints and the endpoints of an FTR, creating the potential to undermine the FTR market;

(f) TrustPower – there needed to be consistency with the energy hedge market to stimulate liquidity in both the hedge market and FTR market, and having an FTR between Benmore and Haywards would enable a neat distinction between the DC rentals used to fund an inter-island FTR and the AC rentals which should not fund the inter-island FTR;

(g) MEUG – a large proportion of attendees were in favour of using the futures and options nodes for an FTR at the ASX information briefing on 29 September;

(h) Contact – the GWAP approach seems to be a more theoretical solution, but not one that links well with existing larger linked markets; and

(i) EPOC – it is not clear whether the potential benefits from using GWAP hubs is worth the extra complexity – most of the benefit might be gained by offering a single static FTR product between Benmore and Otahuhu, or Benmore and Whakamaru.

2.4.19 Three submitters (Genesis, NZX and Rio Tinto Alcan) agreed with the Commission's proposal to use GWAP hubs:

(a) Genesis believed that GWAP hubs provided greater stability, would remain relevant as generation and grid configuration change over time, would reduce the risk of non-linearity, and were less influenced by any particular generator's offers, thus limiting the effect of market power. Genesis did note that there was a trade-off in using GWAP hubs because ASX was currently using nodes for its future products, and a transition, over time, to hubs may have a near term impact on futures market liquidity.

(b) NZX believed that using GWAP hubs would reduce the ability of participants to exercise market power and would provide on average a 'better' hedge for a wider range of participants than using specific nodal points.

(c) Rio Tinto Alcan provided no reasons for their agreement.

Availability horizon

Only one submitter commented on the availability horizon.

2.4.20 NZX was the only submitter to comment on the availability horizon. NZX thought that the FTR service provider should have some discretion on the availability horizon, but felt that FTRs should be offered with sufficient lead-time to give participants more certainty. NZX also noted that if there was secondary trading, this would reduce the dependency and impact of choosing the 'right' percentage to hold over.

Management of revenue adequacy

Submitters were divided on whether they agreed with the proposed approach to management of revenue adequacy. Some submitters believed the proposed approach weakened the solution because it meant it wasn't a firm product. Some submitters agreed that Transpower should bear at least some of the risk of revenue inadequacy due to outages, although Transpower disagreed and did not think such a liability could be imposed by the Code.

2.4.21 Five submitters (Genesis, Rio Tinto Alcan, TrustPower, Mighty River Power and David Reeve) broadly agreed with the Commission's proposed approach to management of revenue adequacy. Genesis believed the proposed approach was acceptable as an initial solution, but recommended that firm products were developed either within the market or external to it as a priority.

2.4.22 Both TrustPower and Mighty River Power emphasised that Transpower should assist in the management of revenue adequacy. Mighty River Power believed that this was needed to create the correct incentives for Transpower to meet scheduled transmission commitments.

2.4.23 David Reeve noted that if there was any locational element to scarcity pricing, then the approach to revenue adequacy should include the transmission provider. David Reeve noted that the nodal scarcity pricing regime designed by W. Hogan intended to create strong incentives for both generators and transmission providers to meet contract commitments to demand. Therefore, David Reeve believed that if there is a locational scarcity price (even inter-island) then Transpower must bear at least some of the cost of FTR revenue inadequacy due to outages.

2.4.24 Meridian, Contact and Transpower disagreed with the proposed approach to management of revenue adequacy. Meridian believed that the proposed approach weakened the solution because it meant there was a risk that FTRs would be scaled down.

2.4.25 Contact noted concerns around the proposed involvement of Transpower in relation to revenue adequacy. Contact felt that in the attempt to incentivise Transpower blurs the line between a purely financial contract and a contract with limitations based on physical aspects of the grid. Contact believed that financial contracts should largely price in any risks associated with physical grid operation, otherwise the potential for disagreements around what Transpower could or should have done are likely to be numerous and complex.

2.4.26 Transpower opposed the Commission proposal that, over time, Transpower should fund a proportion of FTR revenue inadequacy attributable to its actions. Transpower noted that it was not a cost that the Commerce Commission had contemplated when developing the input methodologies and individual price-quality path determinations that will apply to Transpower under Part 4 of the Commerce Act 1986. Transpower also believed it would be inappropriate for the Code to impose this kind of liability, noting that the basis for Transpower's liability was described in vague and potentially subjective terms in the consultation paper.

2.4.27 NZX was not sure that an approach to management of revenue adequacy was needed. NZX believed that the auction of loss and constraint rentals as currently calculated provided, in most situations, for sufficient revenue adequacy, particularly if only FTR options were auctioned. NZX noted that there may be inconsistencies between the FTR grid and the actual grid over time, but considered that the complexity involved in fixing the auction process to this degree may be greater than benefit provided. Therefore, NZX recommended that the Authority should wait and see the size of the issue first.

Allocation of residual revenue

A number of submitters agreed with the proposal to allocate residual revenue to transmission customers based on the TPM, but thought it should be monitored. Some submitters believed that the TPM needed to be finalised first.

2.4.28 Genesis, Mighty River Power, Norske Skog and Transpower all agreed in principle with the proposal to allocate residual revenue to transmission customers based on the TPM. However, some of these submitters had caveats to their support:

(a) Genesis said it would be useful to maintain a watching brief on whether allocation of residual revenue to transmission customers raises any market performance issues that would justify reviewing this decision;

(b) Mighty River Power only agreed if load continued to make up a high proportion of the transmission customers in the TPM – if generators became a high proportion of the transmission customers this would give generators an unfair advantage over other FTR market participants; and

(c) Transpower believed the allocation of residual revenue should continue to be performed by Transpower rather than by the Clearing Manager (as it understood was proposed in the consultation paper) – Transpower noted that the allocation is heavily based on grid topology, which Transpower is most familiar with.

2.4.29 Meridian, NZX, David Reeve and Todd Energy disagreed with the proposal to allocate residual revenue to transmission customers:

(a) Meridian believed that the TPM needed to be finalised first.

(b) NZX did not think the allocation of residual revenue was necessary – it believed that auction revenue should be used to help fund the provision of FTRs.

(c) David Reeve believed there were significant potential problems with allocating residual revenue to transmission customers based on TPM. David Reeve suggested that the transmission pricing project and the locational price risk project need to urgently agree on the jurisdiction of this issue but, even after it is made more clear who is responsible for residual revenue allocation, the two projects need to mutually agree solutions that are consistent with each other.

(d) Todd Energy did not agree with the Commission's rationale for maintaining the status quo allocation of residual revenue on the basis it remains consistent with the TPM – to meet MDP and Government objectives, any locational hedge initiative must include measures to address the current method of allocating rentals which is unrelated to the locational price risk faced, regardless of whether or not that risk is predictable.

Ability of participants to abuse market power

Some submitters agreed that the inter-island FTR sufficiently concentrated competition for FTRs to limit the ability of participants to abuse market power. However, other submitters felt that while the proposed inter-island FTR may reduce the incentive to exercise market power relative to an FTR with more hubs or nodes, it did not, or may not, reduce it sufficiently. A few submitters felt that market monitoring was needed to minimise the ability of participants to abuse market power.

2.4.30 Five submitters agreed that the ability of participants to abuse market power would be sufficiently limited under the inter-island FTR. One of these submitters, Transpower, believed there could be a significantly larger number of hubs/nodes without increasing the ability of participants to abuse market power. Transpower believed that FTRs were designed to increase competition, which was a counter to market power, and that FTRs provided participants a means by which to hedge themselves against abuse of market power by others.

2.4.31 TrustPower also believed that the ability for participants to abuse market power would be limited – in part because asset swaps should reduce the extent to which any particular generator can control the value of any inter-island FTR. Meridian, Genesis and Rio Tinto Alcan also agreed the inter-island FTR would sufficiently concentrate competition for FTRs to limit the ability of participants to abuse market power. Rio Tinto Alcan noted that there were market power concerns with the status quo anyway.

2.4.32 Mighty River Power and David Reeve felt there was potential for the inter-island FTR to sufficiently limit the ability of participants to abuse market power. Mighty River Power believed that the auction design would determine the extent to which participants could abuse market power. David Reeve agreed that the concentration of competition under the inter-island FTR would reduce the incentives to exercise market power, but was not sure whether the level of competition would be sufficient to limit the ability of participants to abuse market power.

2.4.33 Five submitters (Contact, Norske Skog, EPOC, MEUG and NZX) disagreed that the inter-island FTR would sufficiently concentrate competition for FTRs to limit the ability of participants to abuse market power. Norske Skog noted that there had always been considerable concern in the industry over the effect of market power in the presence of FTRs and said that researchers had confirmed these views.

2.4.34 EPOC believed that all of the major generators, including Contact Energy, who have generation distributed in both the North and the South Island can utilise an inter-island FTR to exercise market power in order to maximise their returns on the combined spot market and the FTR coupon payment.

2.4.35 MEUG agreed that there was less risk than having an FTR between 200+ nodes, but it was not a zero risk. NZX also believed that an inter-island FTR greatly reduced the ability for participants to exercise market power compared to if there were FTRs on each node, but the ability for abuse of market power still existed.

2.4.36 EPOC, MEUG and NZX felt that market monitoring was necessary to help minimise this risk.

Means of dealing with potential abuse of market power

Submitters were split on whether market monitoring would be useful for preventing abuse of market power – while some submitters felt it was necessary to have market monitoring, other submitters felt it would be ineffective and difficult to the monitor the hydro-dominated electricity market. Most submitters felt there should be at least some transparency of FTR contract information, but noted that commercial sensitivity needed to be considered and that information needed to be managed in a way as to not discourage trading. A number of submitters felt that auction design was crucial in dealing with the potential abuse of market power.

2.4.37 The Commission proposed that any abuse of market power arising from the introduction of FTRs would be discouraged through:

(a) contract transparency;

(b) FTR design; and

(c) market monitoring by the Authority.

2.4.38 Submitters generally agreed that FTR design and contract transparency could help discourage abuse of market power, but there were mixed views on whether market monitoring would be effective.

2.4.39 Reasons given for agreeing that contract transparency could help discourage abuse of market power included that it was consistent with other electricity market arrangements (Genesis) and that the availability of information serves to guide markets to efficiency (EPOC). Genesis also noted that transparency of the secondary market was also important to help monitor for any abuse of market power. Meridian felt that there should only be transparency if standard confidentiality provisions in the Code were followed – for instance, it felt that figures should be provided as totals and there ought to be no naming of parties.

2.4.40 NZX was against full contract transparency because it could discourage participation. However, NZX noted that final positions could be published after the completion of the period for which FTRs were traded, which would provide participants with the ability to perform whatever testing they considered necessary. David Reeve was also unsure about full contract transparency – he noted that in an auction the transparency of data can be of more use to those that may game the market than those who observe it.

2.4.41 Three submitters (David Reeve, TrustPower and Mighty River Power) specifically noted that auction design would be an important means of dealing with potential abuse of market power. David Reeve felt that the auction design would be critical in maximising the competitive potential of the FTR auction, and noted that

he was concerned that the Commission may be underestimating the time it may take to ensure a good auction design.

2.4.42 Five submitters supported market monitoring for dealing with potential abuse of market power, while three submitters did not support market monitoring. The submitters that supported market monitoring noted that:

(a) NZX – the market monitoring regime should have sufficient authority to act where abuses of market power are identified – the market monitoring needs to be buttressed by credible, robust and timely measures if the monitoring unit detects abuses;

(b) Rio Tinto Alcan – this is a reasonable first step that can be adjusted in light of experience; and

(c) Norske Skog, Transpower, MEUG – no comment on reasons for support.

2.4.43 The three submitters that did not support market monitoring noted that:

(a) David Reeve – market monitoring will be particularly ineffective because any party that exercises market power will not necessarily need to make such an exercise obvious and ultimately the monitoring unit will probably end up having to discuss whether the opportunity cost of large portfolio operators has been correctly determined by them;

(b) TrustPower – market monitoring in a hydro-dominated market will be extremely difficult and assessing any participant's net position for any given moment in time is virtually impossible, ex ante; and

(c) Mighty River Power – New Zealand's electricity market is fundamentally difficult to monitor due to its hydro dominated nature, where the value of hydro generation (water value) is entirely opportunity cost, and monitoring may be further complicated by the introduction of scarcity pricing.

FTR service provider role in developing the FTR product

Nearly all submitters agreed that the FTR service provider should have a role in developing the locational hedge over time. Some submitters noted caveats to this agreement. Only one submitter thought the FTR service provider should have no role in developing the FTR product.

2.4.44 Ten submitters (Meridian, Contact, Genesis, Mighty River Power, Rio Tinto Alcan, David Reeve, Transpower, TrustPower, MEUG and NZX) noted support for the FTR service provider having a role in developing the FTR product. Meridian believed that involvement by the FTR service provider and flexibility in design provided the greatest likelihood of developing a robust and practical product.

2.4.45 Transpower thought the role of the FTR service provider should be extended further to include initial and future hub design and how losses are treated. Transpower believed that the regulator should not prescribe these operational details.

2.4.46 Four submitters noted caveats to their support for the FTR service provider having a role in developing the FTR market:

(a) Genesis – it was critical that the FTR service provider was properly incentivised and managed to ensure development of FTRs occurs in an appropriate and timely manner;

(b) Mighty River Power – development of the locational hedge needed to be done at an appropriate pace, in consultation with industry and under supervision of the Authority;

(c) Rio Tinto Alcan – the Authority needed to retain some approval powers over the final design through the service provider contract; and

(d) David Reeve – the FTR service provider needed to have competence to design and operate such a market, including competence in auction design, competition and game theory, regulatory governance, nodal locational market pricing markets, and electricity markets. David Reeve did not believe the New Zealand electricity market currently had any service provider who would currently meet these requirements.

2.4.47 Norske Skog believed the FTR service provider should have no role in developing the locational hedge over time because it thought the proposal should not proceed.

Funding for the provision of FTR services

Submitters were split on whether FTR services should be funded by charging a fee to FTR participants or through the Electricity Industry Levy. Some submitters felt it was appropriate for users of the FTR service to pay for it via a fee because they were the beneficiaries of the service and it was the most economically efficient way to charge for the FTR service. However, there were other submitters who felt the service should be funded using the Electricity Industry Levy. One submitter suggested that the basic service be funded using the Electricity Industry Levy, but that enhanced or advanced services be funded by a fee.

2.4.48 Three submitters (Mighty River Power, TrustPower and NZX) agreed with the Commission's proposal to fund the provision of FTR services through the Electricity Industry Levy (Levy). Mighty River Power supported using the Levy if the costs of the FTR services were transparent and scrutinised, and noted that a

not-for-profit organisation or regular tender process for the service provider may be appropriate.

2.4.49 NZX recommended that the auction revenue raised through the process be taken into account when setting the Levy, so that the Levy is only used to fund the net cost of the system after taking account of any auction revenue.

2.4.50 Meridian, Contact, Norske Skog, Rio Tinto Alcan and MEUG felt that the provision of FTR services should be funded through a fee on FTR participants. These five submitters all mentioned that it made sense for the FTR users to pay for the service with Meridian and Rio Tinto Alcan noting that this was the most economically efficient method of charging for the service. Rio Tinto Alcan and MEUG also noted that it was not fair and reasonable to impose costs of FTR services on participants that have arranged alternative locational price risk management methods, such as building generation.

2.4.51 Genesis proposed a hybrid charging regime. Genesis suggested that the basic service be funded by the Levy, but any enhanced or advanced services be charged for by a fee. For example, participants could pay a fee to undertake secondary trading of FTRs.

2.5 The evaluation of the proposal section of the consultation paper

2.5.1 This section of the consultation paper evaluated the inter-island FTR proposal and included cost-benefit analysis, qualitative evaluation, and risk analysis.

Cost-benefit and qualitative analysis results

Some submitters disagreed with the results of the cost-benefit and qualitative analysis. These submitters felt the analysis needed to be done once other market design changes were in place and some of these submitters believed the cost-benefit analysis overstated the benefits of the proposal. However, there was some support for the cost-benefit and qualitative analysis from other submitters, who thought the methodology was robust and that the qualitative analysis showed the importance of option value.

2.5.2 Seven submitters commented on the cost-benefit and qualitative analysis. Two of these submitters agreed with the results of the cost-benefit and qualitative analysis. Reasons given for this support were:

(a) Genesis – the methodology is robust and has been largely supported by independent analysis; and

(b) Rio Tinto Alcan – noted that the qualitative analysis showed the importance of option value and the significant overlap in results for the different options

in the cost-benefit analysis suggested that the cost-benefit analysis should not be the sole discriminating factor in selecting the preferred option.

2.5.3 Four submitters disagreed with the results of the cost-benefit and qualitative analysis because:

(a) Meridian – the analysis was not robust enough to make decisions relating to the introduction of FTRs and should be done when other, more fundamental, market design changes (such as the TPM) are in place;

(b) Contact – the cost-benefit analysis did not appropriately account for major market changes such as HVDC upgrades, asset swaps and ASX market development, and significantly overstated the likely net benefits;

(c) Mighty River Power – it is impractical to quantify the benefits of the FTR proposal with so many other variables in the electricity market changing, so the proposal should be delayed and reassessed after the effect of other variables is known; and

(d) Norske Skog – all of the benefits ascribed to FTRs are already available via the ASX hedge trading platform, and the benefits seem to be based on assumptions derived from current market conditions.

2.5.4 TrustPower neither agreed nor disagreed with the results of the analysis. TrustPower noted that it was difficult to assess the impact of a locational hedge when there were so many changes happening in the market. TrustPower questioned the extent to which it had been assumed that a locational hedge would reduce retail prices.

Risk analysis

Submitters had a range of views on the content of the risk analysis and the proposal's ability to manage the risks involved. A number of submitters felt the Commission had correctly identified the risks, but some of these submitters thought some risks had been overstated, while other risks had been understated. Three submitters disagreed with the content of the risk analysis and the Commission's conclusion that the proposal includes sufficient strategies to manage the risks involved.

2.5.5 Five submitters (Genesis, Mighty River Power, Rio Tinto Alcan, Reeve and TrustPower) thought that the types of risks had been well considered by the Commission. However, Genesis and Mighty River Power thought that some risks had been overstated, while others had been understated:

(a) Genesis – the risks of uptake of the product, misuse of market power, and the timeframe needed for implementation had been overstated, while the risk of poor auction design had been understated (noting that a poor

auction design could seriously undermine the attractiveness and effectiveness of the FTR mechanism); and

(b) Mighty River Power – the ability of market monitoring to combat market power risks is overstated, while the risks of implementation and the FTR market being unwarranted are understated.

2.5.6 Meridian, Contact and Norske Skog disagreed with the content of the risk analysis:

(a) Meridian – risk managers will typically employ a variety of tools to manage their portfolio and will opt for the tools which are the most successful;

(b) Contact – the Commission's inadequate problem definition has led to a proposal that may introduce additional risk to participants; and

(c) Norske Skog – a better way to minimise risks would be to abandon the proposal.

2.5.7 MEUG submitted that there would probably be a benefit in waiting while other changes to the market and grid are completed and then making a decision.

The proposal as an intermediate solution

Half of submitters agreed that the proposed inter-island FTR was the best intermediate solution for the New Zealand market. These submitters all agreed that it could be readily adapted to future possible needs of the market, but had mixed views on whether it would significantly improve retail competition and whether it fitted well with energy hedge market developments. Half of submitters did not believe the proposal was the best intermediate solution. These submitters generally felt it would have little impact on retail competition and did not think it would fit well with other hedge market developments.

2.5.8 Five submitters (Genesis, Rio Tinto Alcan, David Reeve, Transpower and TrustPower) were in broad agreement that the proposed inter-island FTR was the best intermediate solution for the New Zealand market. These five submitters all agreed that the proposed solution could be readily adapted to future possible needs of the market. Submitters noted that the solution was flexible and adaptable (Genesis, Rio Tinto Alcan and David Reeve), and TrustPower noted that the inter-island FTR could also be easily withdrawn if the FTR market is no longer required or lacks liquidity.

2.5.9 Despite being in broad agreement that the proposed inter-island FTR was the best intermediate locational hedge solution, David Reeve was not convinced that an immediate solution was needed. Transpower and TrustPower did not think the proposal fitted well with energy hedge market developments because the GWAP hubs were not aligned with the ASX nodes.

2.5.10 David Reeve, Transpower and TrustPower were also unsure whether the inter-island FTR would significantly contribute to improved retail electricity competition:

(a) David Reeve felt that if market power concerns could be addressed and the auction design is good, then the inter-island will lead to better outcomes for end-use customers; and

(b) TrustPower and Transpower did not think the proposal would have the impact on retail competition that was anticipated because the FTR design was not aligned with the energy hedge market.

2.5.11 Six submitters did not believe that the proposed inter-island FTR was the best intermediate solution:

(a) Meridian – did not consider that the Commission had demonstrated that the proposal would practically and significantly improve retail competition;

(b) Contact – did not believe the proposal was supported by robust analysis;

(c) Mighty River Power – did not think that an intermediate solution within the Commission's timeframe was good regulatory or market design practice;

(d) MEUG – thought there would be a benefit in delaying timing and final design pending bedding in of the futures and options market and commissioning of Pole 3;

(e) Todd Energy – were unconvinced the underlying problem warrants the complexity of implementation of the FTR solution that will under-deliver on stated objectives; and

(f) Norske Skog – no reasons given for disagreement.

2.5.12 The submitters that believed the proposed inter-island FTR was not the best intermediate solution generally thought that the proposal would not contribute significantly to improved retail competition. Additionally, they also believed the proposal would not fit well with energy hedge market developments, and were generally silent on whether it could be readily adapted to future possible needs of the market.

3. Summary by submitter

3.1.1 This section gives a bullet point summary of each submission. It is not intended to provide a comprehensive summary of each submitter's view on each issue, but rather a flavour of the key themes and points developed in each organisation's submission.

Table 2 Summary by submitter

Submitter	
Generator/retailers	
Contact	- Concerned about the problem definition analysis conducted by the Commission, and how this has influenced option selection and the proposal itself. - The proposal is primarily based on the level, composition and nature of locational price risk (LPR) that was present over a period which will look different from that which is likely to be prevalent in the period the proposal would operate. - Commission analysis suggests that up to 93% of the sources of existing LPR will be impacted by Transpower's investment programme – the remaining risks the Commission highlights are extremely low probability events and would not justify regulatory intervention on their own. - The effects of other Ministerial Review initiatives need to be explicitly accounted for and understood before the proposal is developed further. - Concerned about the proposal to fund FTR auctions from a pool including HVDC rentals which expropriates rentals from SI generators despite the Commission acknowledging that these rentals are largely unrelated to LPR. The potential return of some proportion of auction rentals is of little compensation. - Do not believe a robust case has been made for using GWAP hubs – the proposal should align with the structure of related energy products. - Concerned around the suggested involvement of Transpower in relation to revenue adequacy – there is a risk this will incentivise Transpower to run the grid more conservatively. - Concerned about the blurred line between financial contracts and physical contracts that develops from the proposal. - The cost-benefit analysis significantly overstates the likely benefits

Submitter	
	of an FTR market – it seems unrealistic that the proposal could result in crowding out of half of all existing hedges, and half of the risk not currently hedged. - Commission's estimated transaction costs for hedges are 50 times those observable in an existing relevant market. - Recommend the Commission should revise the problem definition analysis to account for the likely future state of LPR and assess whether that remaining risk is material. - Recommend the Commission delay decisions on the need for a regulatory intervention until the impacts of more significant market changes on LPR are observed and well understood. - Recommend the Commission consider whether measures to improve the allocation of rentals within islands are a more appropriate intermediate step compared with the proposal. - Scarcity pricing is likely to have the effect of providing clarity around the value of supply (or non-supply) and because these values will be transparent, they will reduce the unpredictability of LPR. - A low volume of 0.1 MW will only create additional compliance costs for the majority of participants in FTR auctions.
Genesis	- Support the introduction of an FTR between the North and South Islands. - Authority needs to maintain momentum with implementing the proposed solution. - Are disappointed that the Commission has chosen to only implement a two-hub FTR when the cost-benefit analysis clearly highlights that further benefits are possible from either the Augmented or Enhanced FTR options. - Support the introduction of an Augmented FTR because it extends the reach of locational price risk (LPR) management to purchasers at all nodes, so has the greatest potential to lift retail competition. - Agree that detailed design and implementation of the Augmented FTR would have some challenges, but recommend that the Commission keep working through these issues and consider establishing a milestone specified in the Code to ensure progress. - The scope for market power problems with a two-hub FTR is limited given the number of participants at each end of the FTR

Submitter	
	link. - Agree that FTR auction design and transparency of contract holdings will be useful to reduce incentives for the abuse of market power. - Do not believe there is a case for introducing a limit on purchases of FTRs from the outset, but this option can be preserved in case there proves to be market power issues. - Support the use of hubs because they provide stable points of reference that remain relevant as generation and grid configuration change over time. - Note there is a trade-off in choosing hubs because the ASX is currently using nodes. - Are comfortable with the exclusion of loss costs – while there is some price volatility associated with loss costs, it is not that substantial. - The exclusion of loss costs helps preserve a degree of locational differentiation, so that prices reflect the economic cost of shipping electricity over a long distance. - The balance of detail to be specified in the Code, the associated schedules, and the FTR service provider contract appears about right. - The percentage of risk cover from the proposed FTR is overstated in the consultation paper. - Intra-island price risk will continue to influence retail prices and dampen retail competition in some regions under the proposed solution. - As an initial solution, the proposed approach to revenue adequacy is acceptable, but recommend that, as a priority, firm products are developed either within the market or external to it. - It may be appropriate to implement a hybrid charging regime, where the basic service is paid for by a levy, but enhanced or advanced services are paid for via an additional market fee.
Meridian	- Generally support the development of trading tools for managing risks. - Do not support the proposal in its current form due to concerns about its complexity and doubts about the level of benefits that will be gained from the proposal.

Submitter	
	- A number of significant uncertainties should be addressed ahead of introducing a locational price risk (LPR) management tool including: transmission pricing, scarcity pricing and market arrangements. - The TPM review will have a much more significant value and wealth transfer impact than the introduction of an LPR management tool. - It is not clear how the Commission's analysis takes sufficient account of Transpower's transmission investment programme. - The cost-benefit analysis could not have taken sufficient account of Ministerial Review initiatives because many of the initiatives have yet to be implemented. - The years the Commission chose to base its analysis on were extreme years and will not give an accurate view of the market and likely impact of an LPR management tool. - The Commission's analysis has not taken into account the credit management implications of FTRs, particularly for non-physical market participants. - Recommend the Commission resolve the TPM review before proceeding further with a tool for managing LPR. - Recommend the Commission work up the problem definition. - Recommend the Commission clarify the allocation of AC rentals via lines companies to ensure some consistency. - The Commission has possibly overstated the level of future LPR. - The Commission has not taken into sufficient account commercial arrangements that are already in place. - The Commission has understated the impact that HVDC Pole 3 will have on inter-island risk. - If an LPR management product is introduced, then support developing that product largely through the service provider contract – this provides for flexibility and gives the most chance of developing a robust locational pricing product. - Do not support the use of GWAP hubs because the computation requirements are too great. - The potential for market power abuse is a concern best addressed by the Commerce Commission. - Do not support charging for FTRs through the Electricity Industry Levy – more efficient for those that use FTRs to fund the cost.

Submitter	
	- The Commission has not demonstrated that the proposed FTR will practically and significantly improve retail competition.
Mighty River Power	- Recommend the introduction of FTRs is reconsidered once the effects of transmission investment and other market changes are known. - Effectively integrating MDP initiatives into existing market design is crucial, but at present there is no comprehensive plan for how to effectively integrate these work streams. - A potential integration issue is the conflict between FTRs and the current TPM – the decision of how to allocate rentals and auction revenue is fundamental to the FTR instrument, and is yet to be resolved. - The debate around scarcity pricing is about incentives for peaking investment and this debate needs to take place in a robust manner before deciding if and how an FTR regime fits with it. - Transpower's major transmission investment, development of a liquid hedge market, and physical and virtual asset swaps will have a positive effect on locational price risk (LPR). - The Commission's analysis to justify an inter-island FTR instrument used historical congestion data, which is unlikely to reflect the future. - A key driver for the hedge market is to allow new specialist participants into the market – under such circumstances there is no need for the physical market to be "net flat" for the hedge market to provide competitive pricing for risk. - An advantage of delaying the introduction of FTRs is that the design and implementation will be more rigorous. - Believe that the national LRA and zonal pricing options were dismissed prematurely. - One of the obvious strengths of the Commission's proposal is that it its flexibility. - A disadvantage of introducing FTRs immediately is that if a FTR market is unwarranted or fails, millions of dollars are wasted. - Careful auction design is critical to ensure mitigation of market power issues and an efficient market. - The Commission's proposed timeline is far too ambitious. - A study released by Mighty River Power in July 2010

Submitter	
	demonstrated that at times, generators had the ability to exercise market power. - The hydro-dominated nature of New Zealand's market poses significant challenges for effectively monitoring market power in the FTR market. - Loss costs should be included in the FTR to simplify the product for users. - It is preferable that FTRs align with the nodes in the hedge market to make the combined markets as user friendly as possible.
Todd Energy	- Unconvinced the underlying problem warrants the complexity of the proposed solution. - Believe proposal will under deliver on objective of promoting (retail) competition. - The proposed solution requires skilled resource for participation, which is likely to be beyond the means of smaller and new-entrant retailers. - There is a need to deal with intra-island risk as well as inter-island risk. - Because of scaling, FTRs leave significant residual risk. - The solution must work in tandem with the HVDC TPM. - There is no benefit in the current system of largely allocating rentals to the monopoly lines companies who (historically) are not exposed to locational price risk (LPR) and are not under any competitive pressure to compete away their allocation of the monopoly rents. - Intra-island risk may increase because the opportunities for low cost incremental enhancements are fewer now and because constraints may increase as future demand increases. - Do not agree with the Commission's rationale for maintaining the status quo allocation of residual revenue. - The optimal locational hedge would be to allocate the rentals to those parties most exposed to LPR in proportion to the actual level of risk experienced. - A flow tracing based LRA appears to offer significant benefits over the proposed inter-island FTR, including: • meeting objective of promoting retail competition; • being simple and transparent;

Submitter	
	• delivering full nodal pricing on supply side; • being unlikely to have revenue adequacy issues; • compensating for the effects of undesirable trading situations and spring washers on demand; • entailing passive involvement from participants; • rentals rebates being able to be used to offset prudential requirements; and • requiring little structural change to the market. - A flow tracing based LRA warrants further detailed evaluation by the Commission/Authority.
Trustpower	- Agree with the introduction of an inter-island FTR, provided that the TPM is altered such that SI generators are no longer responsible for funding the HVDC link. - The timetable set out for implementation of the various MDP workstreams is highly ambitious. - A more staged approach to implementing MDP initiatives would be preferable in order to enable the impact of each individual implementation to be understood clearly before proceeding with the next. - Much of the analysis presented in the consultation paper used data from 2008-1010, but this period is unlikely to be reflective of future steady-state market behaviour. - Question how the asset swaps have been taken into account in the cost-benefit counterfactual. - It would be preferable to wait for asset swaps to settle before deciding what mechanism for managing locational price risk (LPR) would provide the most benefit in terms of increasing retail competition. - If a more equitable allocation of HVDC charges were to be introduced then SI generators would lose their right to either the DC rentals or FTR auction revenue which would have a significant impact on their overall risk positions – therefore, support the simultaneous introduction of a scheme enabling all the participants to actively manage their inter-island risk. - Many lines companies operating networks outside of the major centres do not pass any of the rentals they receive through explicitly – this decreases retail competition in these areas.

Submitter	
	- An intra-island LRA should be implemented in such a way that it does not require any parties to receive 'negative LRAs'. - Allowing potential FTR payments and/or LRA allocations to offset participants' prudential requirements could have a significant impact on improving retail competition by reducing a considerable barrier to the entry of new retailers. - Agree that LPR will continue to be an issue in the future because it is unlikely to be economic to build out all transmission constraints on the grid completely. - The volatility of losses has a material effect on inter-island price risk. - Question whether there is even a lack of competition in the retail market at all. - Not completely convinced that a scheme requiring active participation is the best option for improving retail competition. - Loss costs should not be excluded from the FTR product – including loss costs would enable simpler benchmarking between SI and NI energy prices. - If scarcity pricing were to be implemented at a level more granular than island-wide in the future, there must also be a tool to manage the associated LPR. - While GWAPs have some nice properties, consider that it is important to maintain consistency with the energy hedge market, which trades nodes. - If actual transmission capacity between the two points on the FTR is lower than the total capacity of FTRs that has been sold, Transpower should be required to cover some portion of the residual revenue required. - Market monitoring in a hydro-dominated market is extremely difficult. - Intelligent auction design will be crucial for dealing with the issue of potential abuse of market power. - The principles of disclosure required by the FTR market should be consistent with those required in the energy hedge market.
Consumers	
Major Electricity	- Locational price risk (LPR) is an important impediment to retail competition, but do not know if it is the most important impediment.

Submitter	
Users' Group (MEUG)	- LPR may become less of a problem once Pole 3 and other approved AC network investments are completed. - The inter-island FTR reduces the risk of participants being able to abuse market power, but there is still some risk. - Market monitoring should be implemented. - Participants using FTRs to manage their LPR should pay a fee for the provision of FTR services, so that those using other methods to manage their LPR are not subsidising FTR market participants. - There is probably a benefit in waiting while other changes to the market and grid are completed before making a decision on a LPR management mechanism. - A more liquid hedge market coupled with a less constrained grid may lead to a different design of FTR than that needed now. - Concerned about the capacity of the market to implement the large number of changes already underway over 2011 and 2012.
Norske Skog	- Do not believe that FTRs (or any market or similar instrument) are required to manage locational price risk (LPR), because the ASX exchange provides a simpler method of doing so. - Do not support the use of GWAPs because they add complexity. - Loss rentals should be included in the FTR, but rebated to purchasers. - Believe the Commission is incorrect to include price risk caused by losses and scarcity pricing in its definition of LPR. - Appear to be no benefits of the proposal, and considerable costs involved in establishing the auction and settlement processes. - Revenue adequacy needs to be clearly explained – the analysis so far is incomplete and difficult to understand. - Agree that market monitoring is important for dealing with the potential abuse of market power, but are not confident that the Commission's other ideas will make much difference. - Strongly object to the Electricity Industry Levy being used to fund the FTR service – those who wish to utilise the FTR services should pay for them. - Introducing FTRs is likely to decrease liquidity in the ASX market as it could be used as an alternative means of managing LPR.
Pan Pac	- Not convinced any action on inter-island locational price risk (LPR) is required.

Submitter	
	- Current hedging arrangements being introduced by ASX may be able to provide locational hedge for those who are concerned about LPR. - Issue will be near eliminated with the commissioning of Pole 3. - Believe any move now is premature. - A review of the need for a locational hedge could be considered after Pole 3 and ASX hedging have been operating for some time. - There are far greater barriers to entry in the retail market. - Rentals should be returned to the customers who have paid them and not misappropriated for other purposes.
Rio Tinto Alcan	- The flexibility and scalability of the proposal preserves a high option-value for future actions to further improve locational price risk (LPR) management should they be deemed to have a net benefit. - Agree with the analysis of future LPR. - LPR is clearly a current impediment to retail competition, but whether it remains so, after the significant transmission build that has been approved is completed, remains to be seen. - The Commission's proposal is such that should LPR no longer be a problem the FTR solution will naturally fall away. - There is currently no way to adequately manage LPR and a solution is required. - The specification in the Code needs to be kept to a minimum so that the FTR product can remain flexible. - The true test of how good the design is will be the volume of uptake – if uptake is poor, then the design will clearly need to change. - Agree with the FTR design details proposed by the Commission. - Given the potential exists for abuse of market power and the fact that the Authority cannot monitor this in the absence of full information, full transparency is warranted. - Agree with the proposed role of the FTR service provider in developing the locational hedge over time with the Authority retaining some approval powers over the final design through the service provider contract. - The FTR services should be funded by charging a fee for provision of the services – it would not be fair to impose the costs of FTR

Submitter	
	services on participants who arrange alternative LPR management methods. - The proposal fits well with energy hedge market developments and it should contribute to improved retail competition. - The introduction of the proposal should be treated as a first stage of FTR implementation and look to further development of the facility once experience of the initial inter-island approach has been gained.
Others	
David Reeve	- Not convinced that inter-island price differences will continue to be the predominant source of locational price risk (LPR) because the Pole 3 upgrade of the HVDC will mitigate a great deal of inter-island price volatility. - It is possible the AC grid could again be the source of significant LPR. - Spring washer activity could easily become the predominant source of LPR. - Would not describe the volatility of losses as LPR because they are not unpredictable, especially on average. - Not sure that grid investment will minimise intra-island price risk, because it takes time for grid investment to occur to reduce a source of LPR. - The seriousness of LPR as an impediment to retail competition may be overstated in comparison to other potentially serious impediments, such as the lack of economies of scale in offering in small networks with unique tariff structures. - It probably makes the proposed FTR regime more user friendly to achieve revenue adequacy (for actual losses) by reducing volume rather than utilising a loss adjusted price difference. - On balance, think that the usability benefits of nodal hubs outweigh the GWAP benefits. - If there is a locational scarcity price (even inter-island) then Transpower must bear at least some of the cost of FTR revenue inadequacy due to outages – if Transpower receives regulated revenue for transmission assets then they must use best endeavours to make those assets available. - There are significant potential problems with allocating residual

Submitter	
	revenue to transmission customers based on the TPM – the transmission pricing and LPR projects need to mutually agree solutions that are consistent with each other. - Auction design will be critical in maximising the competitive potential of the FTR auction. - Market monitoring will be particularly ineffective – any party that exercises market power will not, necessarily, need to make such an exercise obvious. - In an auction the transparency of data can be of more use to those that may game the market than those who observe it. - There are benefits in the FTR service provider developing the locational hedge over time – however, the service provider has to have competence in auction design, competition and game theory, regulatory governance, nodal LMP markets and electricity networks. - Agree that the inter-island FTR is an expedient market development, but not convinced that an immediate solution is needed.
Electric Power Optimization Centre (EPOC), University of Auckland	- Agree with the Commission's choice of the inter-island FTR as the best option among the examined alternatives. - Concerned that none of the options involve an FTR between hubs with static weights, or between two (or more) existing nodes – the GWAP mechanism has been proposed without demonstrating its superiority over these simpler arrangements. - The consultation paper does not appear to contain a concise self-contained mathematical description of the FTR coupon payment, or a similar description of a proposed auction mechanism. - The proposed FTR appears to be closer to a flow-gate scheme than an FTR – a purer FTR instrument between two existing nodes arguably carries less risk with greater simplicity, arguably increasing the likelihood of liquidity. - Any hedging instruments face the risk of participants exercising market power – it is important that appropriate market oversight processes are devised to reduce the incentives to exercise market power. - In the first stage of implementation only obligation FTRs should be offered – option FTRs carry the risk of contributing to revenue

Submitter	
	inadequacy. However, the existence of option FTRs will improve liquidity in the FTR market. - The FTR availability horizon is proposed to be 12 months initially and then 24 months thereafter – over such a time horizon there is a significant chance that there may be changes to the electricity grid, which will have an impact on the expected coupon payment of the FTR. - The proposed design appears to be unnecessarily complicated and difficult to extend to include losses – a static hub-to-hub FTR could be developed for which coupon payments can be determined without participation factors. - All of the major generators can utilise an inter-island FTR to exercise market power in order to maximise their returns on the combined spot market and the FTR coupon payment. - Implementing a system of ongoing market monitoring is a simple approach to minimising the risk of participants abusing market power. - Strongly recommend that for both monitoring and efficiency purposes that traded volumes and clearing prices of FTRs be made publicly available.
NZX Energy	- LRAs provide a more straightforward, low cost and transparent way of compensating participants affected by constraints than FTRs. - Scarcity pricing can still be developed to send the required signals under an LRA regime. - If an FTR is introduced, the proposal is the pragmatic trade-off between coverage, complexity and competition concerns. - An important buttress to any FTR auction is a strong monitoring programme to provide comfort to participants about the fairness of the market. - There needs to be a more thorough road map in terms of product roll out to ensure a smooth introduction of the products – recommend the basic 'option' product be rolled out first and its performance evaluated to determine the additional value of an obligation FTR being added subsequently. - Encourage further thought on whether FTRs can be traded subsequent to purchase at the auction.

Submitter	

	- Believe that participation broader than current market participants should be allowed because:
	  • a company looking to enter the electricity market may wish to acquire FTR options to cover its risk;
	  • auction price is more likely to be reflective of its 'true' value; and
	  • it will reduce market power concerns.
	- Support the FTR auction service provider having some discretion around market development.
	- It is important to ensure that the service provider, with the support of the Commission, has the ability to make design decisions where there is no industry consensus around the 'best' approach.
	- Loss costs should not be included in the FTR.
	- Agree with the use of GWAP hubs because it will reduce the ability for participants to exercise market power and provides on average a 'better' hedge for a wider range of participants.
	- Recommend waiting to see the size of the revenue inadequacy issue first – the most appropriate solution may be to ensure the FTR grid and actual grid are kept in as close an alignment as possible.
	- The ability for abuse of market power still exists with an inter-island FTR – however sufficient transparency, appropriate market surveillance and powers to bring action against participants who engage in this behaviour can reduce the inventive for the exercise of market power.
	- A transparent regime could discourage participation because a participant with particular plans may not want to disclose them. Robust market monitoring obviates the need for full transparency.
	- Agree that FTR services should be funded through the Electricity Industry Levy, but also recommend that auction revenue raised through the process be taken into account in setting the levy.

Transpower	- Agree that, with minor amendments, the proposed FTR solution is heading in the right direction. - Have some reservations that the proposal will not deliver the benefits of increased liquidity in the energy market, increased competition and reduction of barriers for new entry without some refinement.

Submitter	
	- Continued evolution of the FTR design must be planned to ensure that FTRs are developed to fully support energy trading in the electricity market. - Note that congestion patterns may change significantly once FTRs are implemented, as market behaviour changes in response to the ability to compete across constraints with reduced risk. - The Code needs to encourage, rather than inhibit, the evolution of FTRs. - Preference is to have high level principles and objectives in the Code, with design left to the FTR service provider and the industry to develop in response to need. - The Authority should resist the temptation to introduce intra-island LRAs – LRAs should be abandoned altogether. - Believe that traders would value fixed hubs/nodes closely aligned with current (and future) energy trading nodes, and a simple payment formula based directly on locational price differences. - Authority should consider enabling the FTR service provider to align the FTR hubs with the ASX trading nodes, and to introduce additional hubs and/or key nodes, if and when agreed with participants. - Objectives in consultation paper could be enhanced by adding the following: • ability to evolve and align with hedge market developments and other market developments; • minimal disruption to existing commercial framework; and • simplicity, transparency and predictability. - The use GWAP hubs is inconsistent with the hedge market nodes, leaving open the possibility for residual basis risk. - Historical locational price risk (LPR) patterns should not be assumed to be a good predictor of future LPR. - The FTR market should align itself to support the energy market, not vice versa. - The treatment of losses in FTRs can adversely affect obtaining an efficient clearing price in the FTR auction. - The design of hubs (or nodes) and of losses representation must be done with auction design – determining these design details before the auction design may constrain the FTR service provider in design details, leading to a sub-optimal result.

Submitter	
	- The FTR service provider, with industry, should define the hubs and loss treatment with other design aspects. - Market behaviour in the current regime is incentivised to minimise LPR through vertical integration – when FTRs are introduced it is likely that market behaviour will change to maximise the benefits of trading across constraints. - Agree that inter-island risk is likely to remain the predominant source of locational price risk, but do not agree that intra-island locational price risk will not change over time. - Oppose the Commission's proposal that, over time, Transpower should fund a proportion of FTR revenue inadequacy attributable to its actions.

Appendix A Submitters' responses to questions

A.1 The following tables contain submitters' responses to each of the questions posed in the consultation paper. Pan Pac and Todd Energy did not respond to any of the questions posed in the consultation paper.

1. Are there any other issues relating to the background, previous analysis and consultations that are relevant to consideration of the Commission's locational price risk management proposal?

Meridian Energy	Meridian submits that there are a number of important topics that need to be addressed ahead of implementing a transmission hedging product. In particular, it is critical that transmission pricing is resolved ahead of implementing a transmission hedging proposal. Meridian further submits that the analysis does not take sufficient account of the amount of transmission investment scheduled to take place, alleviating many of the problematic constraints. Meridian also notes that outcomes of the Ministerial Review where were designed to stimulate retail competition, have not been fully considered within the analysis.
Contact Energy	Contact believes that the background and previous analysis does not account for the potential impact of the HVDC upgrades, asset swaps and ASX market development, and hence the proposal is likely to be inappropriate for the level and nature of locational price risk in the future. Contact believes that the impact of these developments, and the outcome of the TPM review, should be observed and understood before a proposal is developed further.
Genesis Energy	Yes. Genesis Energy believes that it is important that the Authority focuses on ensuring a FTR mechanism is introduced as soon as practicable. A significant amount of work and time has gone into the current proposal and it would be disappointing to see the proposal not progress, as happened in 2003. Genesis Energy notes that the Commission should not view the introduction of a FTR

	between the North and South Islands as the end point of this work, rather it is the completion of the following new matter in the Electricity Industry Act 2010 ("the Act") that is important: "…mechanisms to help wholesale market Participants hedge against price risks caused by constraints on the national grid".[6] In Genesis Energy's view, the Ministerial Review envisaged a level of retail competition that would best be achieved by a more complete locational price risk mechanism that extends coverage across all parts of the country. Genesis Energy questions why the Commission has given attention in its analysis to the Government Policy Statement (GPS). From our understanding, the GPS issued under the Electricity Act 1992 will not apply to the incoming Authority, rather the Authority will be guided by its statutory objectives, by the new matters, as set out in the Electricity Act 2010 and by the principles set out in its consultation charter. [6] Clause 42(2)(c) of the Electricity Industry Act 2010.
Mighty River Power	Yes, as detailed in this submission and our earlier submissions. The most significant issue is the integration of all MDP initiatives into the current market framework over very ambitious timeframes. We believe there is an opportunity to delay the implementation of a locational price instrument until the effect of numerous other market initiatives is known.
Norske Skog	None that we are currently aware of.
Rio Tinto Alcan	No.
Reeve	No comment.
Transpower	No comment.
TrustPower	No, apart from the fact that considerable consideration needs to be paid to the integration of each of the workstreams in the Market Development Programme. In particular, changes to the allocation methodologies for HVDC charges and HVDC rentals need to be closely aligned. Under the current transmission pricing methodology, SI

	generators are allocated 100% of the costs of the HVDC link, and therefore, as the effective link owners/funders, have the property right to 100% of the rentals generated on that line. If a more equitable allocation of HVDC charges were to be introduced, then the SI generators would lose that right to either the DC rentals (prior to the implementation of the EC's LPR proposal) or auction revenue (post-implementation). However, because the DC rentals are currently used by these generators to manage their inter-island LPR, the loss of the rentals or auction revenue would have a significant impact on their overall risk positions. Therefore, as TrustPower supports a change to the HVDC charging methodology, TrustPower also supports the simultaneous introduction of a scheme enabling all participants to actively manage their interisland risk. Such a change to the TPM would necessitate the introduction of FTRs. However, if the HVDC charging methodology were to remain unchanged, TrustPower would support a "wait and see" approach to the introduction of any scheme to manage LPR. As long as it was responsible for partially funding the DC link as a SI generator, TrustPower would be neutral to receiving either its fair share of the DC rentals or a proportionate share of the FTR auction revenue. This would only be the case if there were no restrictions on TrustPower trading in the FTR market to ensure that they sold for a value it perceived as fair. It would be inconsistent for SI generators to pay for the link and to receive neither the rentals nor the auction revenue.
Electric Power Optimisation Centre, University of Auckland	We agree with the Commission's choice of the inter-island FTR as the best option among the examined alternatives outlined in paragraph 14 of the Executive Summary of The Paper. A restriction to two trading locations appears to offer simplicity, low risk and high probability of participation. **Market power** We agree that the inter-island FTR is the least likely of the options to introduce adverse market power effects, and that it is a pragmatic start. Nevertheless, theoretical market power concerns have been established in several papers (see e.g. [1] and [2] and the papers cited within). Electricity spot markets (and by implication FTR and contract markets) benefit from continual and ongoing market monitoring of market power. It is important that the industry devise appropriate market monitoring and oversight processes to reduce the incentives for agents to exercise market power.

	Options and obligations We agree that in the first stage of implementation, only obligation FTRs be offered in the inter-island FTR market. Option FTRs carry the risk of contributing to revenue inadequacy. On the other hand, the existence of option FTRs will contribute to an increase of traded volumes and liquidity in the FTR market. In general. Liquidity tends to improve efficiency, and in standard FTR markets (such as the ones currently operating in the PJM and NYISO,) thinly traded volumes can cause inefficiency (see our response to Q13 below.) **Availability horizon** The Paper (page 38) states that the FTR availability horizon is to be 12 months initially (in the first year of operation,) and then 24 months thereafter. Over such a time horizon there is a significant chance that there may be changes made to the New Zealand electricity grid. If any changes are made, then firstly the change will have an impact on the expected coupon payment of the FTR. This may contribute to revenue inadequacy of the extant FTRs. On the other hand grid expansion might decrease coupon payments, possibly deterring some agents from participating in FTR auctions. It may also be worth noting that the FTRs sold in the PJM are for monthly duration, and in NYISO are for 1 year, 6 month and 1 month durations (there are secondary auctions that the extant long term FTRs can be traded in).
Major Electricity Users' Group (MEUG)	No.
NZX Energy	No comment.

2. Do you agree with the apportionment of contributing factors (losses, line constraints and reserve constraints) to locational price risk set out within the paper?

Meridian Energy	Meridian generally agrees with this statement. However, Meridian's support is dependent on outcomes from the review of the TPM, particularly in relation to the rentals received by South Island generators.
Contact Energy	While the apportionment is reasonable, the time period used in this analysis is not representative of the likely future locational price risk, and hence the apportionment is not entirely relevant in developing a proposal. The apportionment should also consider the potential impacts of expropriation of HVDC rentals as is proposed.
Genesis Energy	Mainly agree. However, Genesis Energy is concerned with how much focus has been given to the recent data that emphasises HVDC constraints. The analysis has overlooked earlier data, particularly between 2001 and 2003, which shows a bigger impact from HVAC constraints. Genesis Energy believes the percentage of risk cover from the proposed FTR is overstated and observes that highly persuasive graphics, such as the heat maps, would look quite different if they were modelled on 2001 data. Genesis Energy agrees that grid investment will help to alleviate many constraints in coming years. However, constraints will inevitably continue to be a factor affecting retail competition in the long run as patterns of generation and demand change over time.
Mighty River Power	We agree that the apportionment reflects historical data, but not necessarily future LPR.
Norske Skog	No. Locational Price Risk as defined in the Electricity Industry Bill does not include losses.
Rio Tinto Alcan	Yes – the analysis is sound.
Reeve	No comment.
Transpower	Technically yes, but disagree that they are the main issue. It is true that that nodal prices are affected by loss, thermal and reserve constraints. They

	are also affected by others, e.g. ramp rate constraints and security constraints, and most importantly participants' bids and offers. The important issue from a trading perspective is that the resultant prices are volatile. The FTR product should have a simple price-difference based payment formula and measures to minimise the risk of revenue inadequacy.
TrustPower	Yes.
Electric Power Optimisation Centre, University of Auckland	No comment.
Major Electricity Users' Group (MEUG)	No comment.
NZX Energy	No comment.

3. Do you agree with the analysis of future locational price risk, and in particular that:
a. the predominant source of locational price risk will continue to be inter-island price differences;[2]
b. the volatility of losses has a material effect on inter-island locational price risk; and
c. that grid investment should minimise intra-island price risk?

Meridian Energy	Meridian submits that the Commission has possibly overstated the level of future locational price risk. In particular, Meridian considers that the Commission has not given sufficient weight to the impact that transmission investment will have on locational price risk. Meridian further submits that the Commission has not taken into sufficient account commercial arrangements that are already in place between generators. Meridian notes that it is neither efficient nor desirable to hedge all risk – particularly risk associated with deliberate decisions to locate plant in a particular area, for example. In Meridian's experience, Energy managers will look to manage risk in a variety of ways, often preferring fixed price contracts over floating spot market pricing. Meridian further notes that energy price risk is significantly greater than locational risk.
Contact Energy	No. Contact believes that the Commission does not account for the likely level and nature of future locational price risk, despite its own analysis showing that most locational price risk will be materially reduced or potentially eliminated. The analysis also ignores the level of existing commercial arrangements in place to manage this risk. Contact believes that the Commissions analysis shows losses, while volatile are not necessary unpredictable, a key part of their definition of locational price risk.

[2] Note that part (a) of question 3 was incorrect in the summary of questions in section 8 of the consultation paper, but was correct in section 4.3 of the consultation paper.

Genesis Energy	a) Inter-island price risk due to the HVDC link will always be a significant source of locational price risk, including after the commissioning of Pole Three. However, Genesis Energy observes that there is significant existing acute locational price risk in certain regional retail markets such as the West Coast of the South Island and that the effect of this on retail competition in such areas should not be understated. b) There is a case for covering loss rentals with a FTR mechanism, but Genesis Energy does not believe loss costs should be included (refer to detail in cover letter). c) No. Genesis Energy believes this is a false assumption. Intra-island price risk will continue to influence retail prices and dampen retail competition in some regions under the proposed solution. Transmission investment will not eliminate intra-island price separation.
Mighty River Power	(b) No. The volatility of losses is relatively predictable for generators. Constraints are the main factor in LPR (c) Yes, however some intra-island risk will remain, particularly if Transpower continue to operate low capacity 110kV transmission in parallel with 220kV (and 400kV) transmission.
Norske Skog	a) No, and according to the consultation document neither does the Commission (Appendix 4, Section 7.1, Table 1 and Appendix 4, Section 7.1) b) No. c) Yes.
Rio Tinto Alcan	Yes – all of these points are sound.
Reeve	a) I am not convinced inter-island price differences will continue to be the predominant source of locational price risk. The Pole 3 upgrade of the HVDC will mitigate a great deal of price volatility inter-island. It is likely the inter-island price differences will still be significant under certain operating conditions but it is possible the AC grid could again be the source of significant locational price risk (as it has before). If small parallel circuit paths approach a high loading point (say with new investments), or possibly if some generator incentives are

	changed, or even if there is an operational change to the security policy, then spring washer activity could easily become the predominant source of locational price risk. b) I would not describe the volatility of losses as a locational price risk. The volatility of losses, including the tidal effects across the HVDC, is not unpredictable especially on average. In addition the tidal effects tend to change relatively slowly and in response to highly transparent hydrological conditions. This makes the price risk of losses low compared to the more unpredictable and extreme occasions of congestion or scarcity of instantaneous reserves. Having said this the large change in potential settlements arising from contracts around the direction of flows on the HVDC, while manageable in a pricing sense, could be a liquidity issue. On the whole I don't think this liquidity issue is significant for incumbent generator-retailers but may be for small players and/or new entrants. c) Ultimately grid investment reduces intra-island price risk. I'm not sure that it does, or should, minimise it. However, historically the industry has often been beset by significant and costly periods of spring washers. Sometimes these have been local but often there have been very significant spring washer events affecting most of the upper North Island. In these cases minor transmission investments or operational changes have been clearly economic in reducing locational price risk (in terms of costing far less than the settlement surpluses generated by the spring washers). However, in the time it has taken for some of these initiatives to be undertaken significant losses have been made by some parties. This has been bad enough for large generator-retailers but such an episode could seriously affect the viability of a small player, new entrant or direct connect customer. Much has been done to streamline the speed of response to such events and to mitigate the price effects of spring washers but they can still occur. In other words grid investment may eventually reduce intra-island price risk but may not do so in time.
Transpower	No. The basis for our response is that we do not agree with the Commission's assumption that market behaviour will remain constant after energy hedges, FTRs, scarcity prices and other MDP initiatives are implemented. It is our view that, with the introduction of all the initiatives in train, risk in the energy market will change and there is therefore every chance that future locational risk will be different to that which has been historically experienced:

	a) We agree that inter-island risk is likely to remain the predominant source of locational price risk but do not agree that intra-island locational risk will not change over time. b) Agree. c) Whilst it could be easy to assume that increased capacity will reduce constraints and therefore locational price risk between islands this does not take into account modified behaviour in the presence of FTRs, scarcity pricing and a superior energy hedge market. Transpower also cautions against the assumption that locational price risk will reduce with increased investment. It is possible that constraints could increase as a result of the introduction of location price risk instruments and this should be acknowledged and accounted for in the design and development of FTRs.
TrustPower	TrustPower agrees that LPR will continue to be an issue in the future, despite upgrades in the transmission network. It is unlikely to be economic to build out all transmission constraints on the grid completely, therefore locational price differences will always produce some form of risk. The volatility of losses does have a material effect on inter-island price risk, and is influenced strongly by the respective offer prices in each island and the direction of flows across the HVDC link. Patterns of LPR are likely to change in the future, as they have done over the past decade. Grid investment should reduce existing intra-island LPR, ceteris paribus. However, generator behaviour in future (post asset swaps) may be significantly different to that observed in previous years, and it is hard to assess how power flows across the grid may change as a result.
Electric Power Optimisation Centre, University of Auckland	No comment.
Major Electricity Users' Group (MEUG)	No comment.
NZX Energy	No comment.

4. Do you agree that locational price risk is, and will continue to be, a serious impediment to retail competition?

Meridian Energy	Meridian considers that the Commission has possibly overstated the extent of locational price risk. In particular, Meridian considers that the Commission has not taken into sufficient account of the outcomes from the Ministerial Review, largely designed to promote additional competition in particular in the South Island. These outcomes include the physical asset transfer and virtual asset swaps. Meridian submits that the Commission's analysis of changes that will result from the Ministerial Review is not sufficient for assessing the benefits of introducing a transmission hedging product. Meridian further submits that the Commission has understated the impact that HVDC Pole 3 will have on the inter-Island risk. In Meridian's view the introduction of Pole 3 will impact on locational risk between the North and South Island's.
Contact Energy	Contact believes that the Commission's analysis overstates the extent of locational price risk. In doing so, the Commission does not appropriately account for the outcomes of the Ministerial Review that are aimed at promoting retail competition i.e. asset swaps, ASX development. The analysis of retail competition provided is outdated and of limited benefit in identifying the need for a financial locational price risk management mechanism.
Genesis Energy	Yes. Locational price risk does dampen retail competition in some regions and will continue to be so until a robust solution for managing locational price risk is implemented.
Mighty River Power	LPR is a factor that influences retail competition if congestion risk is high and there is a lack of locational instruments. In our view the combined effects of transmission upgrades, hedge market development, physical and virtual asset swaps may be sufficient to manage LPR in the short to medium term. If not, we encourage the robust implementation of an instrument that integrates well with the long term evolution of the market.
Norske Skog	No. Several of the specific requirements in the Electricity Industry Bill should improve retail

	competition such as: asset swaps, mandatory inter-island hedges, liquid hedge market.
Rio Tinto Alcan	Locational price risk is clearly a current impediment to retail competition. Whether it remains so, after the significant transmission build that has been approved is completed, remains to be seen. That said, the Commission's proposal is such that should LPR no longer be a problem the FTR solution will naturally fall away. That is, the proposal retains sufficient flexibility to cope with changing power system dynamics (resulting from new investment) and that is one of its chief attractions.
Reeve	I think the seriousness of locational price risk may be overstated in comparison to other potentially serious impediments to retail competition, such as the lack of economies of scale in offering in small networks with unique tariff structures. Addressing locational risk is important and should improve retail competition but may not, in and of itself, fully improve retail competition to its maximum potential.
Transpower	Yes. Without the ability to hedge locational price risk associated with an energy hedge, third parties are likely to consider it risky to enter the energy derivatives market. Hedge liquidity may therefore develop more slowly and vertical integration of generation and retail, with constrained regions may continue. Competition may not increase in the New Zealand electricity market as a result of simply introducing the ability to hedge locational price risk only.
TrustPower	TrustPower echoes other respondents to the 2008 and 2009 consultations in questioning to what extent LPR is actually a major cause of any perceived lack of competition in the retail market. In fact, TrustPower again questions whether there is even a lack of competition in the retail market at all, given its experience in every market segment in which it currently participates. Commission evidence (http://www.ea.govt.nz/our-work/programmes/priority-projects/locational-hedges/, page 9) illustrates that there are at least four retailers serving customers on every single distribution network in the country, which does not seem to suggest that mass-market customers do not face an adequate choice of supplier. Further, while TrustPower agrees that inter-island LPR is material, Commission evidence (ibid, pages 22 and 25) suggests that the perception of intra-island LPR may be stronger than the reality.

	As TrustPower stated in its 2009 submission, the costs of energy make up only around half of consumers' electricity bills, and according to the 2009 consultation the rentals component of the energy market is in the order of 2-3%.
Electric Power Optimisation Centre, University of Auckland	No comment.
Major Electricity Users' Group (MEUG)	It's important but we have no data to assess if it is the most important factor inhibiting retail competition. Once Pole 3 is completed and other approved AC network investments, locational price risk may become less of a problem.
NZX Energy	No comment.

5. What other issues do you consider are materially impeding retail electricity competition and what priority should be attached to addressing them?

Meridian Energy	Meridian submits that issues impeding retail competition have been comprehensively assessed by the Ministerial Review outcomes. In Meridian's view the measures that have already been introduced need to be implemented and allowed to settle before considering additional measures for facilitating retail competition.
Contact Energy	Issues of retail competition have been addressed in the outcomes of the Ministerial Review. Contact believes that there is a high level of retail competition, and that there are risks the proposal could actually restrict this competition.
Genesis Energy	One key impediment to retail competition is the poorly functioning commercial interface between electricity distribution businesses (EDBs) and retailers, given EDBs monopoly power. The "new matters" in the Electricity Industry Act 2010 dealing with standardisation of EDB use-of-system agreements and tariff arrangements[7] provide an opportunity to address this concern and should remain a priority for the Authority. Another material issue may be the rebate of HVAC rentals to EDBs, particularly if EDBs enter their local retail markets in the future. [7] Clause 42(2)(e) and 42(2)(f) in the Electricity Industry Act 2010.
Mighty River Power	Major issues include underinvestment in transmission over the last few decades, distributor pass-through of loss and constraint rentals and distributor tariff structures. Underinvestment in transmission is currently being resolved. Pass-through of loss and constraint rentals to the retailer (i.e. consumer) must be made compulsory. There should be a high priority placed on simplifying distributor tariff structures. Consolidating the number of distributors in New Zealand may also bring additional benefits to the market.
Norske Skog	Prudential security requirements are a barrier to entry for new retailers.
Rio Tinto Alcan	The Commission should seek the advice of the retailers.
Reeve	The Commission has already identified a number of potential issues in its previous

	assessment of retail competition. Most of this work remains relevant. However, it is worth waiting for the current suite of regulatory changes to be implemented and 'bed in' before trying to develop more initiatives. There should be continuous assessment on the state of retail competition, however.
Transpower	In Transpower's view, the major inhibitor to retail competition is the inability to hedge locational price risk. Locational price risk is volatile and unpredictable and hence assumed to be a significant source of uncertainty for investors in generation and retail, particularly new entrants. Management of locational price risk with FTRs is a necessary step but is only one component required to increase competition. Attention must also be given to developing liquidity in the energy hedge market as it is this liquidity that will drive competition and new entry in the future. As the energy hedge market gains liquidity and market needs become more sophisticated the FTR market must evolve. Transpower believes that the Commission and the Electricity Authority must signal a strong commitment to FTRs, both inter- and intra-island, as this will build confidence in the energy market, hence fuelling liquidity.
TrustPower	As it stated in its 2009 response, TrustPower feels that attention should also be focussed on: • developing an appropriate distribution pricing methodology and enforced standardised network data provision protocols; • improving access to distribution networks; • formalising rules requiring the pass-through of locational rentals from network companies to load (if guaranteed pass-through is not legislated as part of this consultation process); • reducing regulatory compliance costs; and • optimising prudential requirements TrustPower is pleased that the EC is currently assessing the impact of several of these issues.
Electric Power Optimisation	The Wolak report points out that our major generators of electricity often do not have

Centre, University of Auckland	diversified sources of generation. For example Genesis is currently chiefly a thermal generator and Meridian and MRP are chiefly hydro producers. Since hydro is the most significant source of electricity production in New Zealand, risk related to inflow scarcity has an adverse effect on the retail sector (in dry periods hydro generators may be more reluctant to enter into retail contracts).
Major Electricity Users' Group (MEUG)	Some distribution terms and conditions may be an impediment, eg prudential requirements reputedly were a factor in e-gas becoming insolvent.
NZX Energy	No comment.

6. Do you agree that locational price risk is a problem that requires a specific locational hedge solution introduced through the Electricity Authority Participation Code?

Meridian Energy	Yes, so long as the apportionment of constraint rentals currently allocated to lines companies are diverted directly to retailers.
Contact Energy	Contact believes that the issue of inclusion in the Code is secondary to whether there is a proven need for financial locational price risk mechanism.
Genesis Energy	Yes. Effective management of locational price risk requires a matching revenue stream, which can only be obtained through access to the loss and constraint rentals pool. Other proposed solutions, such as relying on financial markets, will be insufficient to provide locational price risk management to all affected parties at an efficient cost.
Mighty River Power	No, as we are not convinced an additional tool is immediately required in the New Zealand market (beyond transmission upgrades, hedge market developments etc).
Norske Skog	No.
Rio Tinto Alcan	There is currently no way to adequately manage LPR and a solution is required. It would seem that introducing this through the Code is an appropriate step.
Reeve	No comment.
Transpower	Yes. Given that the locational risk is exactly equivalent to the market settlement surplus (or rental) it is unreasonable to expect that market participants will voluntarily implement a locational hedge market as they have no jurisdiction over rentals. It is imperative that the Commission and the Electricity Authority require a specific locational hedge to be funded by rentals and that the general nature of the hedge is specified in the Code. Transpower supports the introduction of FTRs in the Code.
TrustPower	TrustPower agrees that inter-island LPR is a material issue, and that an inter-island FTR should at least assist in increasing the liquidity of energy products in each island. However,

	TrustPower is not completely convinced that a scheme requiring active participation (as opposed to an administrative allocation or zonal pricing) is the best option for improving retail competition. It is TrustPower's view that new-entrant participants would likely prefer a fair mechanism which reduced their LPR, but which operated in the background. By receiving HVDC rentals, South Island generators currently have a means of managing inter-island LPR. If the right to these rentals were to be removed (for example, through changes to the Transmission Pricing Methodology), then there would be a more considerable and immediate case for a specific locational hedge solution. Until such time as that change occurs, TrustPower believes that it would be prudent to wait for the impact of the asset swaps to be truly understood. It would also be inconsistent to remove the SI generators' right to both rentals and auction revenue without introducing a more equitable HVDC charging regime.
Electric Power Optimisation Centre, University of Auckland	No comment.
Major Electricity Users' Group (MEUG)	No comment.
NZX Energy	No comment.

7. Do you agree with the proposal to minimise the amount of detailed specification of the FTR in the Code, and using the FTR service provider contract to manage future development of the product? If not why not?

Meridian Energy	Yes, so long as it is voluntary to participate in the market. If a locational hedge product is introduced, Meridian supports developing that product largely through the service provider contract. In Meridian's view this provides for flexibility and gives the most chance of developing a robust locational pricing product.
Contact Energy	Contact believes that the issue of inclusion in the Code is secondary to whether there is a proven need for financial locational price risk mechanism. If a mechanism is introduced, it would seem sensible to minimise the level of detail in the Code to provide future flexibility.
Genesis Energy	Partially agree. Genesis Energy notes that in principle this seems appropriate, however, "minimising" the level of detail should not be the Commission's objective. It is a matter of considering what the best fit is in each particular case. In general: • policy matters are best dealt with through the Code; • commercial matters are best dealt with through the FTR service provider contract; and • matters of a more operational nature are best left with the FTR service provider. There are risks regarding how to effectively incentivise the FTR service provider to develop the product. Where possible the Code should provide guidance to the FTR service provider on the features of the FTR products and product implementation that are desirable in terms of achieving the Authority's policy objectives. The paper notes that the "FTR provider will be expected to consult with FTR users" to ensure that proposals meet users' needs.[8] While Genesis Energy believes industry input into the FTR auction design will be essential, it is important that the FTR service provider has the mandate to come up with a solution, rather than having to gain

	consensus within the industry. [8] Paragraph 5.11.4, Managing Location Price Risk Proposal, 13 September 2010, Electricity Commission.
Mighty River Power	Yes.
Norske Skog	We don't agree with the overall proposal at all. But if our views are ignored then we agree that bureaucracy would (hopefully) be minimised by managing details outside the Code.
Rio Tinto Alcan	Yes. The FTR product needs to remain flexible in order to cater for the changing and diverse needs of participants. Therefore, the specification in the Code needs to be kept to a minimum.
Reeve	Yes.
Transpower	Yes. The key role of the Code should be to specify how rentals should be used in the interests of market efficiency. Transpower believes this should be FTRs. The Code should be based on economic principle rather than be operational in nature. Market participants should be allowed to work with the FTR Service Provider to determine the details of the design, implementation and evolution of the FTR market. should be to assess the FTR design against the requirements of the Code. The role of the Electricity Authority should be to assess the FTR design against the requirements of the Code.
TrustPower	Yes.
Electric Power Optimisation Centre, University of Auckland	No comment.
Major Electricity Users' Group (MEUG)	Agree.
NZX Energy	Yes. Once the Commission has decided on its preferred option it is important that

	market development proceeds in a timely manner. Delegating to the service provider the ability to develop the market micro-structure provides the service provider with sufficient flexibility. The following would be important however: a. that the service provider has sufficient expertise to introduce an FTR product; b. that there is a robust monitoring regime in place, which has real authority to act should there be abuses of market power so as to give participants comfort that the regime will not lead to a less good outcome; and c. that the service provider, in conjunction with the Commission, has sufficient authority to make decisions in situations where no industry consensus is reached.

8. Do you agree with the locational risk coverage proposed for the inter-island FTR? and in particular that proposed exclusion of loss costs from coverage will not significantly limit the use of the FTR? If not why not?

Meridian Energy	No. Meridian submits that this proposal still needs a substantial amount of work. Meridian notes that, because this is not a firm hedge, it may be scaled back. This means that the purchaser of the hedge does not have 100% certainty of coverage.
Contact Energy	Contact believes that the coverage issue needs to be addressed to reflect the likely level and nature of locational price risk expected when a proposal might apply. This has not been appropriately done by the Commission to date. Contact notes that the risks of scaling will limit the use of FTRs as will its lack of alignment with existing energy products of higher value.
Genesis Energy	Largely agree. The proposed solution is a useful first step towards effective locational price risk management. It remains to be seen how the market will utilise the product and what developments will occur as a result of the FTR mechanism being introduced. Genesis Energy strongly encourages the further development of products and of the scope of the locational price risk regime. The exclusion of loss costs from the proposed solution is appropriate at this stage and shouldn't undermine the value of the FTR mechanism (refer to comments in the cover letter).
Mighty River Power	It appears to be, based on the EC's historical analysis. Loss costs should be included to simplify the product for users.
Norske Skog	No and no. If the Commission, against our advice, persists with its proposal then in our view the Commission should examine revenue adequacy in detail and design an auction that is simultaneously feasible in the presence of losses.
Rio Tinto Alcan	Yes, but this needs to be monitored. The true test of how good the design is will be the volume of uptake. If uptake is poor, then the design is not meeting the needs of participants and will clearly need to change.

Reeve	On balance it probably makes the proposed FTR regime more user friendly to achieve revenue adequacy (for actual losses) by reducing volume rather than utilising a loss adjusted price difference. Given the proposal is intended, and is, complementary with both OTC basis swaps and energy hedge basis swaps (and is not volume adequate when there is congestion in any case) then reduced volume should not be a problem.
Transpower	No. We believe that the proposed design could approach this problem in a much better way. Transpowers suggestion is as follows: • the complexity of losses should be treated through good auction design, not via a complex and uncertain payment formula for FTR holders; • the formula should be a simple MW multiplied by price difference payment, with low risk of downwards adjustments; • losses should be allowed for in the auction design. From an FTR design perspective, how losses are treated can have significant impact on auction clearing prices, and so on the price of FTRs. The precise treatment of losses is best developed in parallel with detailed auction design. Loss treatment should therefore not be prescribed by the Code but rather left to the FTR Provider and Industry to develop. The treatment of losses in the design and the resultant complex and unpredictable payment against FTRs is unnecessary and will detract from the utility of the product as an effective hedge. A much simpler product design based directly on unadjusted locational price differences is preferable and possible (and the international norm). The detailed design could affect auction clearing prices. For all these reasons, the design should not be prescribed in the Code (or the contract) beyond broad guidelines but left to the FTR Provider to develop with the industry.
TrustPower	TrustPower agrees with the concept of an inter-island FTR, and would be an active trader of the proposed product, were it to be introduced. However, in order to encourage more widespread participation in the FTR market, loss costs should not be excluded from the product. This would enable simpler benchmarking between SI and NI energy prices, and allow participants to price (and

	complete) their own swaps using the FTRs without wearing any loss risk. TrustPower understands that such a product would require some design compromises; however it feels they may be worthwhile in the interests of promoting liquidity in the FTR market, and, consequently, the energy market.
Electric Power Optimisation Centre, University of Auckland	No comment.
Major Electricity Users' Group (MEUG)	No comment.
NZX Energy	NZX's view is that for ease of understanding and calculation in the market, the whole of the loss and constraint rental that is currently distributed by the clearing manager should be included in the auction. That is, loss costs should not be introduced.

9. Do you agree that the proposal for an inter-island FTR only locational hedge does not limit the design options of a scarcity pricing regime for the electricity market? If not why not?

Meridian Energy	Yes. Meridian agrees that the proposal for an Inter-island FTR only locational hedge does not limit the design option of a scarcity pricing regime. However, in Meridian's view, initiatives such as scarcity pricing, should be implemented ahead of locational pricing.
Contact Energy	Contact believes that scarcity pricing may actually reduce the need for a regulated locational price risk mechanism.
Genesis Energy	Yes. The flexibility and scalability of the proposed FTR solution means that it should be reasonably straightforward to adjust the FTR mechanism if needed to account for scarcity pricing design decisions.
Mighty River Power	No. While it does not formally limit design options for scarcity pricing, we believe it would be nonsensical to implement an instrument which ostensibly deals with the majority of LPR, and to commensurately introduce a scarcity pricing instrument which increased locational risk which is not hedged by the product.
Norske Skog	We don't know what scarcity pricing regime the Commission has in mind so do not feel that we can make any comment.
Rio Tinto Alcan	Yes, and in fact it will be complimentary to separate NI and SI scarcity price zones should that be the preferred design.
Reeve	I don't agree. Given no intra-island price risk management then selecting a nodal scarcity pricing regime would be highly risky. However, I don't see this, necessarily, as a problem. New Zealand does not have the transmission contract or pricing regime consistent with a nodal (or zonal or regional for that matter) scarcity price in any case.
Transpower	It has not yet been determined whether scarcity pricing will apply at a national, island, regional, or nodal level, or once established whether and how the level of application might evolve over time. Clearly there is a high-level match between an FTR hub in each island and island (or national) scarcity pricing. This is not so for regional or nodal levels of scarcity pricing. The solution to

	this is to ensure that the FTR hubs and/or nodes can be evolved over time by the FTR Provider and the industry.
TrustPower	Yes. However, if scarcity pricing were to be implemented at a level more granular than island-wide in the future, there must also be a tool to manage the associated LPR.
Electric Power Optimisation Centre, University of Auckland	No comment.
Major Electricity Users' Group (MEUG)	No comment because we are unsure what the scarcity pricing proposal will finally look like. Based on the material published to date we are sceptical as to how it can be effectively implemented.
NZX Energy	No comment.

10. Do you agree or disagree or have any comments on the FTR design details, and in particular on:

a. the proposed use of virtual GWAP hubs rather than nodes?

b. the proposed FTR availability horizon of 12 months for the first year, and 24 months thereafter, with up to 25% of FTRs available over this period?[3]

c. the proposed approach to management of revenue adequacy? and

d. the proposal to allocate residual revenue to Transmission customers, based on the TPM?

Meridian Energy	Meridian does not support the Commission's FTR design. In particular: (a) No – Meridian submits that the computation requirements for the GWAP proposal is too great. (c) No. Meridian submits that this weakens the solution. Meridian notes that coverage is not certain as there is a risk that the FTR's a buyer bids for will be scaled back. (d) Meridian disagrees, the TPM must be finalised first.
Contact Energy	Please refer to our comments in the body of the submission for more detail. Contact believes that nodes are more appropriate as the basis for FTR hubs than GWAP. The GWAP approach appears to be a more theoretical solution, but not one that links well with existing larger linked markets. Contact has major concerns around the proposals to manage revenue adequacy, particularly in terms of Transpower's role. The proposal to allocate residual revenue via the TPM highlights the need to resolve the TPM review first, as well as the inappropriate use of rentals for a purpose that the Commission notes is not really related to locational price risk.

[3] Note that part (b) of question 10 was inadvertently left out of the summary of questions in section 8 of the consultation paper, but was included in section 5.5 of the consultation paper. Where it is clear that submitters were responding to the question as written in section 8 of the consultation paper, their references to parts of the question have been amended so they are consistent with the question as written in section 5.5 of the consultation paper (and as written here).

Genesis Energy	a) As noted in our cover letter, Genesis Energy supports the use of GWAPs. We note that GWAPs: • provide greater stability; • remain relevant as generation and grid configuration change over time; • reduce the risk of non-linearity (for example, a constraint on a particular node would lead to a high price for that node, but would not detrimentally affect the GWAP); and • are least influenced by any particular generator's offers, thus limiting the effect of market power. However, Genesis Energy notes that there is a trade-off in that ASX is currently using nodes for its futures products and a transition over time to hubs may have a near term impact on futures market liquidity. This should be factored into the Authority's assessment of the need for measures to address the "new matter" related to hedge market liquidity. c) Yes, for now. As an initial solution, the proposed approach to revenue adequacy is acceptable. Genesis Energy recommends that firm (revenue adequacy assured) products are developed either within the market or external to it as a priority. d) In principle, yes. Genesis Energy notes that allocation of rentals to customers is not a right under the Code. As such, it would be sensible to maintain a watching brief on whether allocation of residual revenue to transmission customers raises any market performance issues that would justify reviewing this decision.
Mighty River Power	(a) It is preferable that FTRs align with the electricity hedge market (i.e. nodes), to make the combined markets as user friendly as possible. (c) We have not considered this in detail, however we agree with Transpower assisting in the management of revenue adequacy to create the correct incentives for them to meet

	scheduled transmission commitments (d) Yes, if load continues to make up a high proportion of the transmission customers in the TPM. If the TPM changes so that generators become a high proportion of the transmission customers this will give generators an unfair advantage over other FTR market participants (e.g. new entrant retailers)
Norske Skog	a) Physical nodes should be used. This would simplify the revenue calculations and augment the energy market far better than GWAPs. b) No comment. c) See our answer to question 8. The inability of the Commission's proposal to cover actual losses appears to arise from its adoption of a flow-gate type methodology using GWAPs. Adopting a more standardised approach would probably address this shortcoming. d) Yes.
Rio Tinto Alcan	Yes – all of these details appear to be reasonable first steps.
Reeve	a) I can see the benefits of using virtual GWAP hubs rather than nodes. However, on balance, I think the usability benefits (in being more directly complementary with energy hedge nodes) of nodal hubs outweigh the GWAP benefits. c) If the scarcity pricing project is likely to implement a national scarcity price then I might be inclined to agree with the approach to revenues adequacy. However, any locational element to scarcity pricing (whether regional, zonal or nodal) should then include the transmission provider. I have not had time to reference W. Hogan's work in this regard but the nodal scarcity pricing regime designed by him is intended (by my interpretation of his work) to create strong incentives for both generators AND transmission providers to meet contracted commitments to demand. If there is a locational scarcity price (even inter-island) then I believe that Transpower must bear at least some of the cost of FTR revenue inadequacy due to outages. I don't agree with the view that this may mean Transpower withdraws assets from the market. If Transpower receives regulated revenue for transmission assets then Transpower must use best endeavours to make those assets

	available. There is current evidence that giving Transpower market incentives improves market efficiency. The utilisation of Pole 1 since the Commerce Commission refused Transpower the right to recover reserve costs has significantly improved competitive market outcomes. Outage planning has been an area where Transpower has often caused significant market problems. I suggest that giving Transpower some significant commercial incentives (through charging Transpower at least some of the FTR revenue) around both forced and planned transmission outages will increase market performance overall. d) There are significant potential problems with allocating residual revenue to Transmission customers based on the TPM. Please find attached a letter written to the Transmission Pricing Technical Group on this issue. This is an area where decisions made by the Transmission Pricing project could significantly affect the workability of an FTR auction design and vice versa. I suggest the TP project and the LPR project need to urgently agree on the jurisdiction on this issue but, even after it is made more clear who is responsible for residual revenue allocation, the two projects need to mutually agree solutions that are consistent with each other.
Transpower	a) Transpower is concerned that the Commission has chosen to propose a pricing basis (island hubs with prices set at GWAP) for FTRs, which is different to that used by the energy hedge market (Haywards and Otahuhu as set by the ASX). In principle, this introduces unnecessary basis risk between energy purchase endpoints and the endpoints of an FTR, creating the potential to undermine the FTR market. Further, Transpower does not agree with the Commission's suggestion to dynamic GWAPs for the hub prices when it is specific nodal prices that energy is traded against. Transpower's proposal to resolve this issue is to allow the FTR provider to: • align the FTR hubs with the ASX trading nodes; • Introduce additional hubs and/or key node FTRs, if and when agreed with participants, both with the initial design and over time. c) While Transpower can understand the temptation to allocate revenue adequacy risk to Transpower as an incentive to offer maximum grid capacity into the FTR market it is not the FTR market that determines Transpower's revenue requirements and associated

	service levels. Transpower therefore opposes the Commission's proposal that, over time, Transpower should fund a proportion of FTR revenue inadequacy attributable to its actions1. This is not a cost that the Commerce Commission has contemplated when developing the input methodologies and individual price-quality path determinations that will apply to Transpower under Part 4 of the Commerce Act 1986. Further, Transpower believes it would be inappropriate for the Code to impose this kind of liability of Transpower because: i. the liability would effectively be an unlimited civil penalty and it is inappropriate for a liability of that sort to be imposed by super-delegated legislation such as the Code. By comparison, the ancillary service cost allocation provisions required ministerial consent; ii. the basis for Transpower's liability is described in the consultation paper in vague and potentially subjective terms (i.e. "attributed to its actions") – attributed by whom and against what criteria? If Transpower could potentially be liable to this penalty when it was otherwise acting in accordance with the Code, this would be inappropriate; iii. if the idea is to base Transpower's liability on whether or not it has breached the Code then that needs to be dealt with through the Rulings Panel process (ref s55(1) of the Electricity Industry Act 2010) and be subject to the limitations and exclusions of liability in the Enforcement Regulations. d) Transpower supports the allocation of residual rentals and auction income using the current loss and constraints excess payments allocation methodology, which is to transmission customers. This limits value transfers. The discussion paper proposes that the apportionment of rentals be performed by the Clearing Manager. In our view, the most efficient approach would be for this function to continue to be performed by Transpower for its customers. The allocation is heavily based on grid topology, which Transpower is most familiar with. The Clearing Manager should pass the FTR auction income and residual rentals to Transpower for onward allocation in accordance with Transpower's prevailing methodology for the distribution of losses and constraint excess payments as specified in clause 45.1 of the default transmission agreement, i.e. in effect maintain the current practice.

TrustPower	Again, TrustPower would be an active trader of the proposed product, were it to be introduced. (a) As described in the consultation document, the island GWAPs do have some nice properties, including the fact that they are independent of grid configuration and energy trading nodes, and are less prone to being influenced by the actions of individual generators. However, TrustPower considers that it is important to maintain consistency with the energy hedge market, which does trade nodes. A BEN-HAY FTR would be more likely to stimulate liquidity in both the hedge market and the FTR market. It would also enable a neat distinction between the DC rentals used to fund an inter-island FTR, and the AC rentals on the grid, which should not. For this reason, a BEN-WKM FTR would be less palatable. (c) TrustPower believes that Transpower should have some “skin in the game”. If the actual transmission capacity between the two points on the FTR is lower than the total capacity of FTRs that has been sold, Transpower should be required to cover some portion of the residual revenue required. This should occur before the payout on the FTRs is scaled. (d) TrustPower believes that the EC should also have proposed a change to the method of allocation of any residual revenue not covered by the proposed FTR. In both its 2008 and 2009 submissions (accessible via the EC website) TrustPower discussed shortcomings in the existing allocation method to Transpower’s customers. TrustPower was not the only submitter to do so. The main point made in those submissions (and subsequently) was that while the majority of total rentals are passed through by lines companies, this is because most of the lines companies serving the greatest proportion of the load (and, hence, receiving most of the rentals) do pass these rentals through. Many other lines companies around the country, especially those operating networks outside of the major centres, do not pass any of these rentals through explicitly. In TrustPower’s view, this decreases retail competition in these areas. TrustPower notes that the EC’s preferred option for managing intra-island risk, if required, is a universally positive locational rental allocation (LRA). Had the EC taken their proposal further and added such an LRA to the inter-island FTR, they would have guaranteed that all rentals would have been passed through to the load, which ultimately funds the rentals in the first place. It is TrustPower’s view that an intra-island LRA should be implemented forthwith, provided it is structured in such a way that it does not require any parties to

	receive ‘negative LRAs’. Further, if the LRA allocation (and potential payouts on FTRs) were handled by the Clearing Manager and used to offset participants’ prudential requirements, this could have a significant impact on improving retail competition by reducing a considerable barrier to the entry of new retailers.
Electric Power Optimisation Centre, University of Auckland	The proposed FTR design appears to be unnecessarily complicated and difficult to extend to include losses. What is proposed seems to be closer to a flow-gate mechanism. The appendix to this document describes a static hub-to-hub FTR instrument for which coupon payments can be determined without participation factors. This instrument is also easily extended to cover loss rentals, as explained in the appendix. Furthermore, conditions under which revenue adequacy are ensured for this design are established. It is not clear whether the potential benefits from using a GWAP is worth the extra complexity. We wonder if most of this benefit might be gained by offering a single static FTR product between Benmore and Otahuhu, or Benmore and Whakamaru. This has a simpler coupon payment (encouraging participation) and arguably offers similar hedging opportunities to a product using two GWAP hubs.
Major Electricity Users’ Group (MEUG)	a) At the ASX information briefing on 29th September in Auckland there was a large proportion of attendees in favour of using the futures and options nodes for FTR.
NZX Energy	a) NZX agrees with the use of GWAP for the islands. It will reduce the ability for participants to exercise market power and provides on average a ‘better’ hedge for a wider range of participants than using specific nodal points. We have recently undertaken to develop and publish GWAP numbers to assist participants in gaining some experience of their use. The EC has performed some very useful work in identifying the useful correlation of GWAP to other nodes, which NZX believes is sufficiently robust to justify their use at this time. b) NZX believes that the service provider should have some discretion over this, as there is insufficient research to justify these proportions. That being said, NZX believes that it would be reasonable to offer FTRs with sufficient lead-time to give participants sufficient comfort that they can cover their positions with reasonable certainty.

	If there is the ability to trade auction rights subsequent to their initial purchase then this would reduce the dependency and impact of choosing the 'right' percentage to hold over. Any such secondary market needs to be transparent and open to all auction participants to ensure that the integrity of the initial auction process is not undermined. This could be a function that is also provided by the FTR auction service provider – and would utilise the registry links that are proposed. c) The auction of the loss and constraint levels as currently calculated provides in most situations for sufficient revenue adequacy, particularly if FTR options only are auctioned. As we understand the proposal if there are no loss and constraint rentals to be allocated then the value of any rights purchased will be zero. NZX recognises that there may be inconsistencies between the FTR grid and the actual grid over time, but considers that the complexity involved in fixing the auction process to this degree may be greater than the benefit provided. Our recommendation is to wait and see the size of the issue first. It may be that the most appropriate solution is to ensure that the FTR grid and actual grid are kept in as close an alignment as possible rather than trying to deal with revenue adequacy issues. d) NZX does not consider this necessary for the reasons outlined above.

11. Do you agree with the view that the inter-island FTR sufficiently concentrates competition for FTRs to limit the ability of Participants to abuse market power? If not why not?

Meridian Energy	Yes. Meridian supports this view.
Contact Energy	Contact believes there are relevant market power concerns associated with the proposal.
Genesis Energy	Genesis Energy notes that concentration of competition for FTRs has numerous advantages, including market liquidity, pricing efficiency and reduced market overheads. One potential additional advantage is the diminishing of theoretical market power opportunities.
Mighty River Power	Potentially. There has been little robust investigation of this matter, other than a Mighty River Power's study[7] that demonstrated the behaviour of FTR holders in the New Zealand market. We are of the view that the auction design will determine the extent to which parties can concentrate ownership of FTRs, and thus create strong incentives to use market power. [7] "Exploring the Strategic Behaviour of FTR Holders with Market Power" by Golbon Zakeri and Tony Downward
Norske Skog	No. There has always been considerable concern in the industry over the effect of market power in the presence of FTRs. Researchers have confirmed these views (see for instance 4). The FTR holder has an incentive to manipulate the spot market outcomes so that he or she can maximise profits.
Rio Tinto Alcan	Yes. As the Commission points out, concerns about market power arise regardless of the solution proposed and these concerns already exist with the status quo. Concerns about market power should not be a reason to disqualify a potential solution to the LPR management problem. Rather, concerns should focus on how to identify and manage the exercise of market power.
Reeve	I agree the concentration of competition reduces the incentives to exercise market power. I also agree that, particularly post the transfer of Tekapo to Genesis, the inter-island FTR has one of the greatest concentrations of competition across it. However, I remain concerned that this level of competition relative to the size of the inter-island FTR and the

[4] Pritchard, G. and Philpott, A.B., On financial transmission rights and market power, *Decision Support Systems*, Volume 40, 2005.

	size of the regions it serves (particularly the South Island) is sufficient.
Transpower	Yes, extremely so. Transpower believes that there could be a significantly larger number of FTRs hubs and/or nodes without increasing the ability of participants to abuse market power, noting that: • The ultimate counter to market power is increased competition, which FTRs are designed to achieve; • FTRs provide an ability for participants to hedge themselves against the abuse of market power by others; • Full transparency on FTR contract information will increase visibility of abuse of market power by FTR holders in the much larger energy market.
TrustPower	Yes. As noted above, the concept of GWAPs would be preferable from the point of view of minimising the potential for abuse of market power; however, this would create an inconsistency with the energy hedge market. The asset swaps should reduce the extent to which any particular generator can control the value of any inter-island FTR, regardless of its configuration.
Electric Power Optimisation Centre, University of Auckland	We disagree with this view. In the New Zealand market MRP and Genesis are predominantly North Island producers and Meridian is predominantly a South Island producer. It has been established (see e.g. [1]) that a holder of an FTR with generation located at the downstream node on the FTR can have incentive to reduce production, drive their nodal price up, create a price difference between the upstream and downstream nodes and collect on the FTR coupon payment as well as spot market returns. All of the major generators, including Contact Energy who have generation distributed in the North and the South Island can utilize an inter-island FTR to exercise market power in order to maximize their returns on the combined spot market and the FTR coupon payment. The nature of the inter-island FTR is by no means immune to exercise of market power. Implementing a system of ongoing market monitoring is a simple approach to minimizing this risk.

Major Electricity Users' Group (MEUG)	No. There is less risk than having say FTR between 200+ nodes, but there is never zero risk. Market monitoring should be implemented no matter how few FTR nodes are used.
NZX Energy	An inter-island FTR greatly reduces the ability for participants to exercise market power compared to a situation where there are FTRs on each node. The ability for abuse of power exists – however sufficient transparency around this, appropriate market surveillance and powers to bring an action against participants to engage in this behaviour can reduce the incentive for the exercise of market power. As highlighted in our cover letter, one consideration that would further reduce the potential for market power is broadening the range of potential participants beyond those who are currently defined as market participants. This would allow, for example, companies looking to become market participants in the future, but also other participants who may have an interest in the FTR auction to bid for rights. The broader range of participants will likely lead to a more accurate price, and reduce concerns around the exercise of market power.

12. Do you agree with the proposal's other means of dealing with the issue of potential abuse of market power? If not why not?

Meridian Energy	Meridian submits that the abuse of market power or the potential for market power abuse are concerns which are better addressed by the Commerce Commission. Meridian notes that a well designed market will in it self alleviate market power concerns, whether transmissions hedges are introduced or not.
Contact Energy	There are steps that the Commission can, and should take in designing an FTR proposal but these are likely to be secondary to more fundamental issues around the need for, and scope of, a locational price risk mechanism.
Genesis Energy	As stated in our cover letter, Genesis Energy does not believe the potential for exercise or misuse of market power is a significant consideration. We believe that requiring transparency of contract holdings is an entirely appropriate and prudent measure. Genesis Energy agrees that intrusive measures such as limiting purchase holdings of FTRs should not be used unless there is clear evidence of a problem. Intrusive measures are likely to create new and unintended problems of their own, such as inefficient pricing.
Mighty River Power	Yes and No. We agree that the design of the auction is critical. In our view the use of market monitoring is impractical in the New Zealand market. New Zealand's market is fundamentally difficult to monitor due it is hydro dominated nature, where the value of hydro generation (water value) is entirely opportunity cost. Monitoring may be further complicated by the introduction of scarcity pricing. For example, if the EC is concerned there has been market power abuse by a hydro generator, the generator could argue that their water value was driven by scarcity pricing, not from the pay-off from an FTR. This is yet another reason the timing of FTRs should be reconsidered.
Norske Skog	We agree that market monitoring is important, but we are not confident that the Commission's other ideas will make much difference.

Rio Tinto Alcan	Yes – these are reasonable first steps and can be adjusted in the light of experience.
Reeve	I think the biggest single lever left (assuming the proposal goes ahead as proposed) is the FTR auction design. The design will be critical in maximising the competitive potential of the FTR auction and I strongly suggest that, as such, the FTR design is done with sufficient expertise, funding, time and consultation. I am concerned the Commission may be underestimating the time it may take to ensure a good auction design. My own view is market monitoring will be particularly ineffective. Any party that exercises market power will not, necessarily, need to make such an exercise obvious. Ultimately (assuming sophisticated bidding strategies) the market monitors will probably end up having to discuss whether the opportunity cost of large portfolio operators has been correctly determined by them. This is practically impossible to do with the level of robustness that would be necessary to take compliance action, especially with the raft of market reforms being implemented (and most especially with scarcity pricing; and especially again if scarcity pricing is applied at anything less than national level). At the end of the day an FTR auction makes available significant amounts of money and I suspect that FTR bidders will (particularly in aggregate) be far better funded than any market monitoring function. In comparison I suggest that a good market design is far more effective at achieving competitive outcomes.
Transpower	Yes
TrustPower	Market monitoring in a hydro-dominated market is extremely difficult. Assessing any participant's net position for any given moment in time is virtually impossible, ex ante. Intelligent auction design will be crucial.
Electric Power Optimisation Centre, University of Auckland	No comment.
Major Electricity Users' Group (MEUG)	Agree.

NZX Energy	NZX is of the view that the market monitoring regime should have sufficient authority to act where abuses of market power are identified. The market monitoring needs to be buttressed by credible, robust and timely measures if the monitoring unit detects abuses.

13. Do you agree that the market monitoring regime should include full transparency of the FTR contract information? If not why not?

Meridian Energy	Yes, so long as the standard confidentiality provisions in the code are followed. For instance, figures should be provided as totals and there ought to be no naming of parties.
Contact Energy	Contact submits that there are analogous information disclosure mechanisms in place which would be a useful starting ground for such a regime (hedge disclosure information). Information should be managed to not discourage trading, and to ensure individuals cannot be identified.
Genesis Energy	Yes. Genesis Energy believes that full transparency is appropriate for a market such as this and is consistent with other electricity market arrangements (for example, next day publication of bids and offers). Establishing full transparency from the commencement of the FTR market should help mitigate any concerns that participants and observers may have regarding potential negative impacts of the new regime. Transparency of the secondary FTR trading market will also be important. A clear process and structure is needed to ensure participants are aware of who holds what level and type of FTR, in order to enable "over the counter" trading.
Mighty River Power	This question can not be answered now – the appropriate levels of transparency are dependant on the auction design.
Norske Skog	Yes.
Rio Tinto Alcan	Yes – whilst there is always a trade off between commercial sensitivity and transparency RTA considers that given the potential exists for abuse of market power of the generators and the fact that Authority cannot monitor this in the absence of full information, full transparency is warranted.
Reeve	Not necessarily. I would normally support transparency as a good market practice. However, in an auction the transparency of data can be of more use to those that may game the market than

	those who observe it. Whether the FTR auction is blind or not, and the 'depth' of the blindness, is a key auction design parameter and needs to be carefully considered at the design stage.
Transpower	Yes
TrustPower	The principles of disclosure required by the FTR market should be consistent with those required in the energy hedge market, given the incentives that hedging (or a lack of hedging) in both markets creates in the wholesale market.
Electric Power Optimisation Centre, University of Auckland	**Auction inefficiencies and information** In a recent paper, Deng and Oren have shown that inefficiencies might occur in simultaneously feasible FTR auctions when bidding is thin. It can be shown that with the increase in the liquidity of these FTR markets that they become more efficient. One vital mechanism that serves to guide markets to efficiency is the availability of information. We strongly recommend that for both monitoring and efficiency purposes the traded volumes and clearing prices of FTRs be made publicly available. The Commission may want to consider formats such as available on the NYISO TCC website: http://www.nyiso.com/public/markets_operations/market_data/tcc/index.jsp
Major Electricity Users' Group (MEUG)	Agree.
NZX Energy	While ostensibly, a transparent regime would provide comfort to participants, it could also discourage participation. A participant with particular plans may not want to disclose them, whereas the publication of FTR positions could provide competitors with information about intentions. NZX believes that a robust market monitoring regime obviates the need for full transparency of this type. That is, provided the market monitor had full disclosure of all auction bids, and final positions in real time – then it has sufficient information to take action at the point it deems that it is warranted. To provide comfort to the market around the efficacy of the monitoring, information on the final positions might be published after the completion of the period for which FTRs were traded. This would provide participants with the ability to perform whatever testing they considered necessary. The benefit of doing this would need to be weighed up against whether this may

	discourage participation from some potential players, particularly smaller players. In this way, the FTR auction would be more transparent than the hedge market – where only the net open position for the market is known, not the positions of individual participants. This is true both when the contracts are open and after they are closed.

14. Do you agree with the proposed role of the FTR service provider in developing the locational hedge over time? If not why not?

Meridian Energy	Yes. Meridian agrees that the FTR service provider should have a role in developing the locational hedge over time. In Meridian's view this type of involvement and flexibility in design of the FTR product provides the greatest likelihood of developing a robust and practical product.
Contact Energy	If there is proven value in a locational price risk mechanism, it is reasonable that the service provider should have a role in developing that product over time.
Genesis Energy	Yes in principle. It is important that the FTR service provider is well positioned to develop the locational hedge system. It will be critical that the FTR service provider is properly incentivised and managed to ensure that development of FTRs occurs in an appropriate and timely manner.
Mighty River Power	Yes, at an appropriate pace, in consultation with industry and under the supervision of the Electricity Authority.
Norske Skog	No, since we do not think the proposal should proceed.
Rio Tinto Alcan	Yes, with the addition that the Authority retains some approval powers over the final design through the service provider contract.
Reeve	I agree but with caveats. There would be benefits in the FTR service provider being tasked with developing the locational hedge over time. The caveat is that this ongoing service provider has to have the competence to design and operate such a market. This is a far greater competence than developing the models, tools and mathematics. The FTR auction design will be critical and similar levels of expertise will be needed to investigate revisions or extensions to locational risk management. Therefore, such a service provider will need to have competence in auction design, competition and game theory, regulatory governance, nodal LMP markets and electricity networks. For the avoidance of doubt I don't believe the NZEM has any service providers who would currently meet the total required competence.
Transpower	Yes, but the role should be expanded.

	The role of the FTR service provider should be expanded to include the initial and future hub design and how losses are treated in FTR design. The regulator should not prescribe these operational details.
TrustPower	Yes.
Electric Power Optimisation Centre, University of Auckland	No comment.
Major Electricity Users' Group (MEUG)	Agree.
NZX Energy	Yes. The service provider should have a role in developing the market.

15. Do you agree with the proposal not to charge a fee for provision of FTR services, but to fund those cost through the Electricity Industry Levy? If not why not?

Meridian Energy	No. Meridian does not support charging for FTR's through the Electricity Industry Levy. In Meridian's view it would be more efficient for those that use FTR's to fund the cost of the FTR's. This is particularly applicable if the FTR product is to be voluntary.
Contact Energy	No. Contact does not support a levy for FTRs. The users of the product should pay for it, highlighting the risks in the proposal not being based on a self funding market.
Genesis Energy	Genesis Energy notes that the introduction of a levy would be consistent with other similar processes and would maintain a low barrier of entry for participants. However, the levy-based charging regime does limit the potential incentives that could be put in place to encourage improvements to the level and range of services provided by the FTR service provider. Genesis Energy believes it may be appropriate to implement a hybrid charging regime, whereby the basic service is provided via a levy, but enhanced or advanced services are provided via an additional market fee. For example, participants may need to pay a fee to undertake secondary trading of FTRs. However, the Authority should be mindful of the monopoly position of the FTR provider. <u>Payment of the levy</u> Genesis Energy believes that retailers (including EDBs with a retail business) should be responsible for payment of the levy, as this mechanism has been designed to specifically address purchase price risk.
Mighty River Power	Provided that the costs of FTR services are transparent and scrutinised. A not for profit organisation or regular tender process for the service provider may be appropriate.
Norske Skog	No. We strongly object to this suggestion since we have no intention of participating and can not see how we could derive any benefit. Let those who wish to utilise the FTR services pay for them.
Rio Tinto Alcan	No.

	There is no reason for the cost of the service not to be charged to those who benefit from it. Those beneficiaries are clearly the participants who purchase FTRs. If they did not benefit from the FTRs, they would not purchase them. Similarly, if they did not benefit to an extent that covered the cost of providing the service they would not purchase the FTRs. In the latter circumstances, the uptake will be low and thus calls into question either the design or whether the product is sufficiently valued at all. It is probable that some participants will arrange alternative locational price risk management methods. It would not be fair and reasonable to impose the costs of FTR services on to these participants. The Commission's reasoning for proposing levy funding is weak. The industry needs to move away from the smearing of costs across everybody approach to one that allocates costs on the basis of improving economic efficiency – i.e. to the beneficiaries, who are the purchasers of the FTRs. Subsidising FTR purchasers through the levy is not economically efficient. But if it is necessary to get sufficient uptake it calls into question the design or even the need. These need to be addressed, rather than being ignored through the action of a subsidy.
Reeve	No comment.
Transpower	No comment.
TrustPower	Yes.
Electric Power Optimisation Centre, University of Auckland	No comment.
Major Electricity Users' Group (MEUG)	No. Those using FTR to manage locational price risk should pay. Those using other options, such as building generation in constrained areas, should not have to subsidise FTR market participants. A user pays model is preferable for both the initial FTR product and any future new products, ie the FTR service provider should be charging the incremental costs of new products to those that use them.

NZX Energy	NZX agrees with the proposed funding for the FTR services through the Electricity Industry Levy. However, we would further recommend that auction revenue raised through the process be taken into account in setting the levy. That is the Levy only is used to fund the net cost of the system after taking account of any auction revenue.

16. Do you agree with the results of the cost-benefit and qualitative analyses undertaken by the Commission? If not why not?

Meridian Energy	No. In Meridian's view the Commission's cost-benefit and qualitative analyses are not robust enough to be used to make decisions relating to the introduction of FTR's. In particular, Meridian considers that much of the necessary analysis ought to be undertaken when other, more fundamental, market design changes are in place, in particular, changes to transmission pricing.
Contact Energy	No. Contact believes that the cost benefit analysis significantly overstates the likely net benefits from the proposal, and importantly does not appropriately account for major market changes such as the HVDC upgrades, asset swaps and the ASX market development. See our more detailed comments in the body of our submission.
Genesis Energy	Genesis Energy notes that carrying out a cost-benefit analysis of initiatives such as these is always problematic. In this particular case, the current lack of detailed market design information makes any such analysis quite subjective. However, Genesis Energy believes the methodology employed for the quantitative analysis appears robust and has been largely supported by independent analyses, thus seems valid. The qualitative analysis also appears to follow a sound logical approach. The results of the cost-benefit analysis support the Commission's proposal and the approach being taken. However, Genesis Energy believes the additional net benefits indicated from the Augmented or Extended options are a clear indication that further phases of development are warranted and should be investigated and progressed over time. Genesis Energy encourages the Authority to implement post-project reviews on all of the "new matters" to help understand the costs and benefits arising from the initiatives. This will aid the evaluation of future initiatives, ensuring they are undertaken on an informed, effective basis.
Mighty River Power	No. It is impractical to quantify the benefits of the FTR proposal with so many other

	variables in the New Zealand market changing (i.e. transmission upgrades, physical asset swap, virtual asset swaps and hedge market development). The proposal should be delayed and reassessed after the effect of the other variables is known.
Norske Skog	No. The Commission appears not to have appreciated that all of the benefits it ascribes to FTRs are already available via the ASX hedge trading platform. (Note the benefits calculated by the Commission seem to us to be based on assumptions derived from the current market conditions, rather than the counter-factual including transmission investments and outcomes from the Ministerial review, and thus appear to be exaggerated). Contrary to the Commission's view introducing FTRs is likely to decrease liquidity in the ASX market as it could be used as an alternative means of managing locational price risk. The FTR regime would be an unnecessary distraction for the Authority from more important matters. The costs are greater than the (non-existent) benefits.
Rio Tinto Alcan	The analyses are very useful because they clearly indicate there is a significant range in the net benefit of each option and that the ranges have significant overlap. This means that the NPV analysis should not be the sole discriminating factor in selecting the preferred option. Option-value is important and the Commission has tended to express this concept in terms of flexibility and scalability. Our view is that the Commission's FTR proposal maximises option-value as it is the most flexible option and most easily scalable, including eventual removal should uptake decline over time. This is a significant factor in our support for the proposal.
Reeve	No comment.
Transpower	No comment.
TrustPower	TrustPower neither agrees nor disagrees with the results of the analyses undertaken. It is very difficult to try and assess the impact that a mechanism for managing LPR will have with so many other changes to the market occurring concurrently. In particular, TrustPower questions to what extent it has been assumed that a mechanism for managing LPR will decrease retail prices, given the influence of the other factors impeding retail competition listed in the answer to Q5.

Electric Power Optimisation Centre, University of Auckland	No comment.
Major Electricity Users' Group (MEUG)	No comment.
NZX Energy	No comment.

17. Do you agree with the content of the risk analysis undertaken by the Commission and the conclusion that the proposal includes sufficient strategies to manage the risks involved? If not why not?

Meridian Energy	No. Meridian notes that risk managers will typically employ a variety of tools to manage their portfolio and will opt for the tools that are most successful.
Contact Energy	No. Contact submits that the Commission's inadequate problem definition has led to a proposal that will not meet the desired outcomes, and may introduce additional risk to participants. Contact has proposed some steps which it believes are required in developing the workstream on locational price risk management, which are contained in the body of our submission.
Genesis Energy	Genesis Energy believes the Commission has undertaken an extensive and detailed risk analysis and it does seem that the majority of credible risks have been considered. The proposed option selected has the greatest overall chance of mitigating the primary risks. Genesis Energy believes that some of the risks or the impacts of them appear to have been overstated, for example, the uptake of the product, risk of the misuse of market power and the timeframe needed for implementation. However, the proposed solution appears to stand up to the risks reasonably robustly. In contrast, a number of risks appear to have been understated in the analysis, such as poor auction design which could seriously undermine the attractiveness and effectiveness of the FTR mechanism.
Mighty River Power	The type of risks the FTR proposal will be exposed to has been well considered. However, the risks of implementation or the FTR market being unwarranted are understated, and the ability of market monitoring to combat market power risks is overstated.
Norske Skog	A better way to minimise the risks is to abandon the proposal.
Rio Tinto Alcan	Yes.
Reeve	I agree that the Commission has understood the risks, thoroughly investigated them and

	made an informed decision.
Transpower	No comment.
TrustPower	Yes.
Electric Power Optimisation Centre, University of Auckland	No comment.
Major Electricity Users' Group (MEUG)	There will probably be a benefit in waiting while other changes to the market and grid are completed and then making a decision. This option needs to be analysed.
NZX Energy	No comment.

18. Do you agree that the proposed inter-island FTR is the best immediate solution for the New Zealand market, and in particular that it:

a. will significantly contribute to improved retail electricity competition?

b. fits well with energy hedge market developments? and

c. could be readily adapted to future possible needs of the market?

Meridian Energy	No. Meridian disagrees that the proposed Inter-island FTR is the best intermediate solution for the New Zealand market. Meridian does not consider that the Commission has demonstrated that this product will practically and significantly improve retail competition. Meridian submits that transmission pricing and Ministerial Review progress needs to be in place before FTR's should be considered, with regards their utility to the market. Meridian notes that the ASX user group has a preference for 1 MW products and two distinct nodes. This group has been operational for 16 months and is already established in the market. While already established, Meridian expects that ASX will gather additional momentum over the next year as more participants come on board. Meridian notes that all risks from physical generation through to the customer's meter require management.
Contact Energy	No. Contact has proposed some steps which it believes are required in developing the workstream on locational price risk management, which are contained in the body of our submission. Contact does not believe the proposal is supported by robust analysis, and that the cost benefit analysis undertaken overstates the likely net benefits of the proposal. The proposed benefits in terms of improved retail competition and hedge market development are likely to be materially overstated.

Genesis Energy	a) Genesis Energy believes that the proposed inter-island FTR has significant potential to sustain current higher levels of competition in some areas. b) Yes. Genesis Energy notes that using hubs may have a detrimental impact on hedge market liquidity in the near term, and this should be factored into the Authority's report back to the Minister on hedge market liquidity in November 2011. c) Genesis Energy believes that theoretical flexibility and adaptability are the most attractive features of the proposed solution compared to the developed alternatives and other potential solutions. The introduction of this FTR mechanism should not be seen as the end point of addressing locational price risk. Genesis Energy recommends that the Authority progress the current FTR mechanism into an Augmented FTR. This option would extend the reach of locational price risk to all nodes and as noted in the cost benefit analysis, provides greater benefits. As there is a long history of inertia with implementing a locational price risk mechanism, Genesis Energy recommends that it would be useful to build in a mechanism (as described in the cover letter) to maintain progress towards a more complete solution that extends retail competition benefits to all regions.
Mighty River Power	Again, our view is that an immediate solution within the EC's timeframe is not good regulatory or market design practice. We believe there is an opportunity to delay the implementation of a locational price instrument until the effect of other numerous market initiatives is known. (a) Potentially. The benefits of the other market initiatives should be understood first. (b) To some extent. It is preferable that FTRs align with the electricity hedge market (i.e. nodes), to make the combined markets as user friendly as possible. (c) Yes.
Norske Skog	a) No.

	b) No. c) No.
Rio Tinto Alcan	Of the options considered, the FTR proposal is clearly the most readily adaptable to future needs due to its flexibility and scalability. We agree that it will also fit well with energy hedge market developments and it should contribute to improved retail competition. The introduction should be treated as a first stage of FTR implementation and look to further development of the facility once experience of the initial inter-island approach has been gained.
Reeve	I agree the inter-island FTR is an expedient market development and is suitable for relatively quick development (with the caveat that sufficient time must be taken on the auction design). I am not convinced that an immediate solution is required, however. a) If the market power issues can be sufficiently addressed and the auction design is good then I think the inter-island FTR will lead to better outcomes for end-use consumers. While I agree that the inter-island FTR will tend to improve retail competition (given the same caveats above) I remain concerned that there are other barriers to retail competition that need to be addressed before retail competition is maximised to all customers. b) Yes. c) I agree. The proposal can be relatively easily modified, extended, removed or made to fit in with other solutions. It is flexible.
Transpower	With refinements as recommended, yes. Transpower supports FTRs as a solution and compliments the Commission on its efforts to simplify the FTR model as much as possible. However, we feel the solution is oversimplified and some big assumptions with regard to future market behaviour have been made. As an insurance policy, Transpower suggests that the Electricity Authority consider the possibility that future market behaviour may not be reflected by past behaviour and that basis risk is more likely to increase rather than decrease

	in the future. To mitigate the risk of increased rather than decreased future basis risk Transpower suggests that the Authority seriously consider enhancing its proposal by allowing the FTR Provider to: • align the FTR hubs with the ASX trading nodes; • introduce additional hubs and/or key node FTRs, if and when agreed with participants, both with the initial design and over time. a) Transpower is confident that the proposal is likely to go a long way to resolving inter-island location price risk. However, for the reasons outlined above, Transpower is concerned that the Commission's proposal will not have the impact on retail competition that is anticipated because the FTR design is not aligned with the energy hedge market. Further, Transpower remains concerned that intra-island locational price risk may become an issue and would like to see the Commission send a strong signal that it will be resolved with FTRs if necessary. b) We disagree that the proposal fits well with energy hedge market developments for the simple reason that FTR hub prices (GWAP) are not aligned with ASX nodes. Transpower recommends allowing the FTR Provider to align the FTR hubs with the ASX nodes as outlined in the response to Q10 above. c) Transpower agrees that the proposal could be readily modified for future market needs but strongly recommends that the initial FTR design aligns with the ASX nodes or signals the intention to allow multiple hubs or key nodes so that market participants can align their FTR purchases with the energy hedges.
TrustPower	TrustPower agrees with the introduction of an inter-island FTR, provided that the Transmission Pricing Methodology is altered such that SI generators are no longer responsible for funding the HVDC link. (a) It will be difficult to assess the contribution of the proposed FTR to improved retail electricity competition, due to the number of other initiatives being undertaken at the same time. The FTR should contribute at least to energy hedge market liquidity, however if it were aligned more closely with hedge market developments, it would be much more likely to significantly contribute to improved retail electricity competition.

	(b) The proposed use of GWAPs in the FTR market rather than nodes, while attractive, is a particular concern with respect to energy hedge market developments. (c) Yes. This includes the mechanism being withdrawn if the FTR market is no longer required or lacks liquidity.
Electric Power Optimisation Centre, University of Auckland	No comment.
Major Electricity Users' Group (MEUG)	No. As noted in response to Q17 above we think there will be a benefit in delaying timing and final design pending bedding in of futures and options market and commissioning of Pole 3. There are two aspects to be considered: • A more liquid hedge market coupled with a less constrained grid from as early as 2012 onwards may lead to a different design of FTR than that needed now; and • MEUG has concerns at the capacity of the market to implement the large number of changes already underway over 2011 and 2102, plus the introduction of an FTR market. It may be that the market decides additional futures and options products (eg cap options) have a higher priority than FTR products.
NZX Energy	No Comment