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**A discussion paper
concerning**

**Transmission pricing issues
identified by the TPTG**

**Prepared for:
The Electricity Commission**

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Preface



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Introduction

1. The Electricity Commission (Commission) has initiated a Transmission Pricing Review (review) to undertake a wide-ranging review of options for the allocation methodology for transmission costs.
2. The Commission has established a technical working group (Transmission Pricing Technical Group (TPTG)) to advise and assist the Commission with its review.
3. The first stage of the review is an investigation into high level options for transmission pricing. As part of this initial stage the Commission is considering issues with the current transmission pricing.
4. The TPTG has been assisting the Commission by identifying and considering issues. As a first step, individual members provided a number of points relating to the strengths and weaknesses of the current TPM.
5. The focus has been on weaknesses in order to identify issues relating to the current transmission pricing, although members noted that there are a number of strengths as well.

Purpose

6. The purpose of this paper is to provide an outline of the issues identified by the TPTG relating to current transmission pricing.
7. The Commission will be using the work of the TPTG as an input to a consultation paper on high level options for transmission pricing. The work will also be considered in stage 2 of the review. Stage 2 involves identifying and analysing a short list of options.

Approach

8. The paper defines and records the issues identified by the TPTG and then categorises them into a specific area of transmission pricing. Whilst the scope of this work has not included the identification of options that may resolve the issues, where the TPTG has suggested or implied alternative options these have been included.
9. The categorisation that is used here first divides the issues into 'policy' or 'regulatory framework' issues.
10. For the purposes of this paper, policy issues are issues that are concerned with the overall purpose of the Transmission Pricing Methodology (TPM). The purpose of the TPM is set out in rule 1 of Section IV of Part F which states:

"The purpose of the transmission pricing methodology is to ensure that, subject to Part 4A¹ of the Commerce Act 1986, the full economic costs of Transpower's services are allocated in accordance with the principles set out in rule 2.

11. The purpose is further described in the introduction to schedule F5 of Section IV of Part F of the Electricity Governance Rules 2003 (the Rules) where it states that the TPM:

'is used to recover the full economic costs of Transpower's services with the exception of investment contracts entered into pursuant to rule 8 of section III of part F of the Rules, existing new investment contracts and other contracts of the kind referred to in rule 9.1 of section IV of part F of the Rules. The full economic costs of Transpower's services include costs relating to costs which are not subject to the Grid Investment Test'

12. For the purposes of this paper, regulatory framework issues are those that can be linked to the pricing principles, guidelines and related rules set out in Section IV of Part F of the Rules. Appendix 1 sets out the pricing principles, guidelines and related rules that make up the regulatory framework that is used when assessing a proposed TPM and considering its pricing components.
13. Issues that have been classified as regulatory framework issues have been further categorised by the relevant pricing principles and/or guidelines.
14. Figure 1 illustrates the method for categorising TPTG issues.

¹ Part 4A of the Commerce Act has now been superseded by a new Part 4 of the Act.

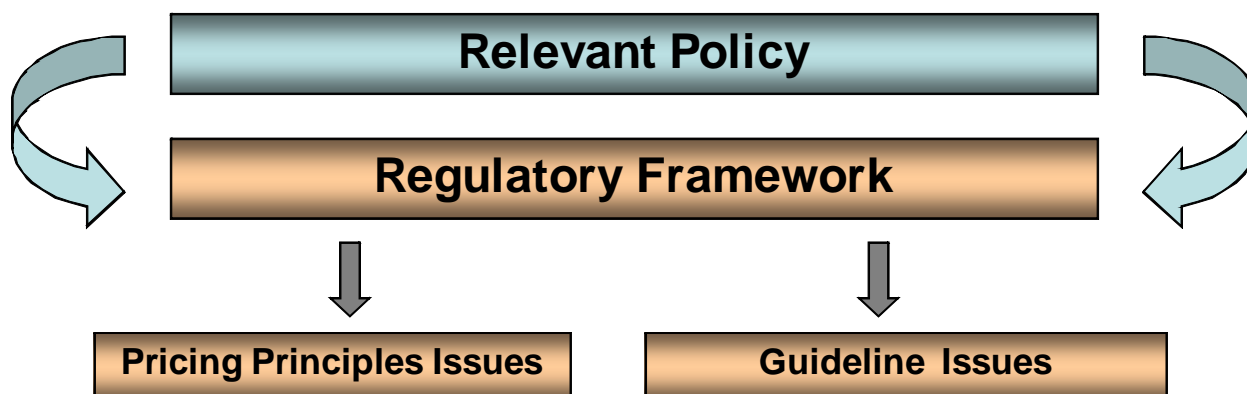


Figure 1

Issues

15. The issues are set out here in three sections:
 - policy issues;
 - regulatory framework pricing principle issues; and,
 - regulatory framework guideline issues.
16. The table in Appendix 2 lists all the weaknesses raised by the TPTG and links them to the relevant policy, or regulatory framework areas.
17. A summary of the strengths identified by the TPTG is provided in Appendix 3.
18. It should be noted that both the strengths and weaknesses were provided by individual TPTG members and do not represent a consensus view of the TPTG.
19. The strengths have also been noted, where relevant, in the issues tables in the following three sections.

Policy issues

20. The table below shows the policies relevant to the TPM, the points made by the TPTG that relate these policies and in some cases suggests options for alternative policies.

Policy	Potential policy issues identified by TPTG members <i>Issues included here are either issues identified by individual members or by groups of members.</i>
<p>TPM is a cost allocation methodology</p>	<ul style="list-style-type: none"> • <i>Price is not linked to service</i> The current TPM is a cost allocation methodology in which price is not related to service level. Some TPTG members argued that this means that there may be weak performance incentives on Transpower, and that prices do not reflect the range and level of services supplied, and the differences between customers or service levels desired by customers. Customers pay the same amount whether or not the service meets quality standards they desire (and are willing to pay for) or not. One member noted that, where the network is shared, services could not be tailored to the preferences of each individual customer. Members did recognise that there are performance incentives on Transpower. Transpower has incentives to maintain quality of service via price/quality thresholds under Part 4 of the Commerce Act, via service measures in the Benchmark Agreement and some New Investment Contracts, and via the interconnection capacity services measures in schedule F6 of section VI of part F of the Rules Whilst members recognised these performance incentives outside the TPM, some stated that the Commerce Act provisions are very high-level and that the TPM may usefully provide more specific service incentives. For example, TPM performance incentives could be reliability or constraint related, and regional approaches could be considered to reflect different service levels. • <i>Dynamic signalling</i> Although the TPM is a cost-allocation methodology some members considered that there may be a role for dynamic signalling. For example, the TPM could signal the Long Run Marginal Cost (LRMC) of grid investments.
<p>TPM designed for Transpower only</p>	<ul style="list-style-type: none"> • The current TPM provides revenue security directly to Transpower only. Other transmission providers, and providers of alternatives to transmission, can only obtain TPM revenue by contracting with Transpower. Some members had concerns that under the current arrangements: <ul style="list-style-type: none"> ○ a "cost plus/monopoly provider" focus in provision of transmission services may be encouraged; ○ transmission solutions may be chosen when alternatives to transmission are more efficient, such as generation location decisions; and ○ conversely, distribution solutions may be implemented even if there is a more efficient transmission solution. This is because the distributor cannot own and operate the transmission solution on the same revenue base that Transpower can (although one member noted that the grid investment test should, in principle, enable the most efficient solution to be identified and implemented). • One member noted that Transpower canvasses a wide range of potential "wires" and "non wires" solutions when developing grid upgrade plans and that the Commission and other participants are also able to propose alternative solutions if they believe they would better satisfy the grid investment test. • Enabling other transmission providers, and providers of alternatives to transmission, to directly obtain revenue under the TPM may – some members believe - increase economic efficiency and apply downward pressure on prices.

Policy	Potential policy issues identified by TPTG members <i>Issues included here are either issues identified by individual members or by groups of members.</i>
Open access is available to all potential connecting parties	<ul style="list-style-type: none"> Some members pointed out that physical capacity rights are not provided to those that pay for connection assets. For example, transmission customers that have already paid for (or partly paid for) a particular set of connection assets do not have exclusive access rights to those assets and conditions under which new parties are connected are currently 'negotiated' in new investment agreements and not included in the TPM. Physical capacity rights could be allocated to customers for connection assets that they have contracted to pay for. It is noted that there may be Commerce Act implications to consider.

Summary of policy related issues

21. The issues relating to the policy issues are summarised below. In the opinion of some individual TPTG members:
- (a) the TPM is an allocation methodology in which price is not related to service and may lead to poor performance incentives on Transpower, and mean that there is little or no dynamic signalling of investment costs;
 - (b) the TPM applies only to Transpower and extending it to other providers may increase economic efficiency and downward pressure on prices; and
 - (c) open access is available to all potential connecting parties meaning transmission customers who have already paid for (or partly paid for) a set of connection assets do not have exclusive rights to those assets.

Regulatory framework – pricing principles issues

22. The pricing principles are set out in rule 2 of schedule IV of part F of the Rules. The table below shows the rules that define the pricing principles and the points made by the TPTG that relate to pricing principles. Only the rules that appear to have issues have been shown. The full list of pricing principles is given in Appendix 1.
23. Rule 3.1 has been included in the list to cover consistency, practical considerations and regulatory certainty criteria.

Rule No.	Pricing principle	Pricing principle issues identified by TPTG members. <i>Issues included here are either issues identified by individual members or by groups of members.</i>
2.1 – 2.5	See 2.1 – 2.5 below	<ul style="list-style-type: none"> Members discussed a possible lack of clarity regarding these five pricing principles and their application. This was particularly in relation to the interpretations and application of the user, beneficiary and causer pays terms. The TPTG suggested a review of these pricing principles could provide improved clarity of the intention of these principles.

Rule No.	Pricing principle	Pricing principle issues identified by TPTG members. <i>Issues included here are either issues identified by individual members or by groups of members.</i>
2.1	The costs of connection and use of system should as far as possible be allocated on a user pays basis;	<ul style="list-style-type: none"> • HVDC allocation could be seen as beneficiary pays whereas pricing principle 2.1 requires user pays. • HVDC recovery is from SI generators only and hence there are additional costs to new generation in SI. Therefore, HVDC recovery may be considered to cause non-linear distortions on new SI generators. • A causer-pays approach could be considered for grid investment (i.e identifying and allocating costs to those customers that create the need for new investments, to the extent possible). • Voltage support charges are not included under the TPM. The reactive power requirements could be included in the TPM to provide an incentive for least cost solutions. It has been suggested that charging interconnection on a kVA rather than kW basis would achieve this. The requirement for unity power factor has been raised as an issue by distribution lines businesses and providing incentives through the TPM to manage power factor levels is one possible option. • It is not clear how future proofing capacity can be accommodated if a first mover generator in a region utilises only a proportion of the potential new generation capacity.
2.2	The pricing of new and replacement investments in the grid should provide beneficiaries with strong incentives to identify least cost investment options, including energy efficiency and demand management options;	<ul style="list-style-type: none"> • Incentives for demand side management are limited. • Averaged fixed price recovery provides no incentive or location signal for generation.

Rule No.	Pricing principle	Pricing principle issues identified by TPTG members. <i>Issues included here are either issues identified by individual members or by groups of members.</i>
2.3	Pricing for new generation and load should provide clear locational signals;	<ul style="list-style-type: none"> • Load shifting between regions can have an impact on local generation economics. This can be seen in the UNI and LNI and the embedded generation in the WEL network. • There could be a greater number of smaller geographic regions. This approach may enable consideration of nodes supplying large single loads to be defined as a separate region. • The TPM provides limited locational signals to ensure efficient generator investment and location decisions. • It is not certain the current TPM sends the right economic signals regarding the location of additional load and generation. Locational signals are limited to connection charges, the slightly tilted Regional Coincident Peak Demand (RCPD) charges and HVDC charges. (It is possible that these may be adequate when combined with nodal pricing and the GIT.) The response to the introduction of RCPD is not fully known, and research may reveal important information for the future TPM development. Stronger locational signals could be provided for new generation. Locational signals may not be as important for load as these will have little effect on locational choice because transmission costs comprise a small proportion of total costs for firms and households. • One member considered that there are strong incentives for embedded generation.
2.4	Sunk costs should be allocated in a way that minimises distortions to production/consumption and investment decisions made by grid users;	<ul style="list-style-type: none"> • Customers strongly value certainty, but there is a trade off as the price does not reflect the real time usage and can fluctuate according to the behaviour of others. • Fixed costs cannot necessarily be passed through the supply chain to consumers. Fixed cost recovery may not be suitable for some transmission customers. • Averaged RCPD fixed cost recovery provides limited incentives for embedded generation because the revenue requirement is reset every year and there may be limited capability to avoid the relatively small number of peak measurement periods (although one member noted that, provided embedded generators are able to operate over the winter period when regional peaks are set, the RCPD allocation method obviates the disincentives inherent in the AMD method). • HVDC pricing could be considered to be inconsistent with HVAC pricing and this pricing principle,. • HVDC recovery causes non-linear distortions on new SI generators (the marginal HVDC cost is a lot lower for generation being added to a large cost base than for a new generator). However, one member noted that the allocation of HVDC costs does not discourage embedded generation in the South Island. • Some TPTG members valued the allocation of interconnection costs to offtake based on demand, and the fact that these costs are recovered in an unavoidable fashion with no Locational Marginal Price (LMP) distortions.

Rule No.	Pricing principle	Pricing principle issues identified by TPTG members. <i>Issues included here are either issues identified by individual members or by groups of members.</i>
2.5	<p>The overall pricing structure should include a variable element that reflects the marginal costs of supply in order to provide an incentive to minimise network constraints;</p> <p><i>It is noted that this Pricing Principle considers 'overall pricing' which includes nodal pricing.</i></p>	<ul style="list-style-type: none"> • The TPM postage stamp (Guideline 12 requirement) treats new grid investment the same as existing grid and this may be in conflict with the requirement of this pricing principle. • Arguably, to meet the requirements of this pricing principle, the sunk grid peak incentives should be weakened and peak signals designed on the marginal cost of new assets. • There are limited dynamic signals for transmission investment as LRMC of transmission is not signalled through the TPM and large economies of scale with transmission investment may undermine efficient nodal pricing signals (it is noted that the transmission investment decision process may signal some future transmission costs). This raises the question; are the locational signals that are present through the current package of measures sufficient and are they providing efficient signals? • The signals may not be getting through to those that are able to respond. The TPM may have design elements to encourage demand side response but most consumers are substantially insulated from the methodology and lines companies have the ability to pass through transmission charges. • Poor power factor may cause inefficient use of transmission capacity and lead to early augmentation. Voltage support charges could provide price signals to improve power factor but these are not included in the TPM.
3.1	<p>In applying the Pricing Principles, Transpower and the Board should take into account practical considerations, transaction costs and the desirability of consistency and certainty.</p>	<ul style="list-style-type: none"> • Grid reliability standards, counter parties and pricing may be perceived to contain inconsistencies, for example different definitions for core grid and interconnection assets. There may also be differences in interpretation of the definitions. • An example of definition and interpretation boundary issues is the definition and application of the deep connection concept. The question of how deep 'deep connection' should be and requirements for clarity and consistency of its application could improve the understanding of the issue. • Members expressed contrary opinions on the TPM with some saying the TPM is overly complicated although improvements have been made to more clearly define the components. There may be further opportunities to simplify the methodology, although this may be at the margins. A number of members considered that the TPM has the following strengths: <ul style="list-style-type: none"> ○ That it gives revenue certainty to Transpower. ○ Transaction costs are low. ○ That it is now relatively well-understood by members. ○ That the definitions and processes are clear with minimal discretion accorded to Transpower, and that this has helped minimise disputes and compliance costs. ○ That the TPM provides certainty to customers as charges do not vary markedly from year to year.

Summary of regulatory framework pricing principles-related issues

24. The issues relating to the pricing principles are summarised below. In the opinion of some individual TPTG members:
- (a) there is a lack of clarity regarding the pricing principles and their application. A review of pricing principles 2.1, 2.2, 2.3, 2.4 and 2.5 could provide improved clarity of the intention of these principles;
 - (b) the allocation of the HVDC charges to the SI generators is based on the benefits the HVDC provides and, to the extent that there is a difference between user pays and providing beneficiaries with strong incentives to identify least cost investment options, and how use of the grid is defined, there is a potential conflict with the user pays pricing principle in rule 2.1;
 - (c) voltage support costs could be better targeted to causers. Causer pays or beneficiary pays could be alternative approaches;
 - (d) reliance on nodal pricing and the GIT may not be providing adequate signalling for investment in transmission alternatives and stronger locational signals may need to be provided through the TPM;
 - (e) the sunk cost recovery method may discriminate against some counterparties and could be amended to provide for differentiation between customers with different usage patterns.
25. Some members also noted an additional contextual point that maintaining the status quo may avoid contentious wealth transfers that may occur if the methodology is changed.

Regulatory Framework - guideline issues

26. The relevant guidelines are shown in the table below with the issues identified by TPTG members. Only the guidelines that appear to have issues have been shown. The full list of guidelines is in Appendix 1. .

Guideline No.	Guideline	Related guideline issues identified by TPTG members. <i>Issues included here are either issues identified by individual members or by groups of members.</i>
7	7. Transpower may be required in the future to fund alternatives to transmission. Transpower should indicate in its proposed methodology how it intends to allocate the costs of transmission alternatives, if they are funded by Transpower.	<ul style="list-style-type: none"> • Mechanisms for providing benefits to alternative providers are limited (but it was noted that Transpower has developed grid support contracts). • The current methodology is designed to provide revenue directly to Transpower only. It was noted that transmission asset based upgrades of approximately \$2.7 billion have been approved yet there have been no proposals approved for transmission alternatives. It was further noted that generation investment was not appearing in transmission constrained regions even when those options appear to be more efficient than transmission investment. • Voltage support is not included in the TPM and alternatives are not funded in the same way as grid-based solutions. • Incentives for demand side management are limited.
9	A definition of deep connection should be developed and applied consistently and transparently. The definition of deep connection must avoid subsidisation of interconnection assets to the extent practicable.	<ul style="list-style-type: none"> • Reviewing how deep 'deep connection' should be and the requirements for clarity and consistency of its application could improve the understanding of the issue.
10	The costs of connection assets are to be recovered from those connected to them.	<ul style="list-style-type: none"> • Some members stated that the deep connection basis for allocating connection costs was a strength of the TPM, and that asset return and maintenance recovery rates correctly recover total costs of connection.
12	Charges for existing and new interconnection assets should be on a postage stamp basis. This is similar to the current interconnection charges ² .	<ul style="list-style-type: none"> • Guideline 12 could be considered to be inconsistent with pricing principles 2.1 – 2.5. • Postage stamp pricing has been diluted (for example by the use of non-uniform "N" peaks) and doesn't promote equitable price/quality tradeoffs • The TPM treats new grid investment the same as existing grid. Arguably the sunk grid peak incentives could be weakened and peak signals designed on the marginal cost of new assets.

² The "current" interconnection charges referred to are those that applied before the existing TPM was implemented.

Guideline No.	Guideline	Related guideline issues identified by TPTG members. <i>Issues included here are either issues identified by individual members or by groups of members.</i>
13	<p>Transpower should review the existing basis on which it calculates the interconnection charges at a grid exit point. Specifically, Transpower should review whether using the 12 highest half hour offtake peaks in the 12 months up to and including the current month is the most consistent with the pricing principles in rule 2 of section IV of part F. This review includes consideration of anytime versus regional or national coincident peaks.</p>	<ul style="list-style-type: none"> The application of the RCPD should be reviewed in light of experience since its introduction. A review could include consideration of anytime AND regional or national coincident peaks. While transmission assets are usually provided to ensure reliable supply at peak periods, some parties hold the view that transmission users whose Anytime Maximum Demand (AMD) is not coincident with the regional peak may not be contributing to the cost of the assets used.
15	<p>The costs of the HVDC link and any replacement of or upgrade to it should be charged to all South Island generating stations that inject into the grid.</p>	<ul style="list-style-type: none"> This guideline may be inconsistent with pricing principle 2.1 as some TPTG members interpret the principle as requiring a user pays allocation for all existing transmission assets.

Summary of regulatory framework guideline issues

27. The issues relating to the guidelines are summarised below. In the opinion of some individual TPTG members:
- (a) despite the guideline relating to transmission alternatives, the TPM may not be providing adequate incentives for transmission alternatives such as demand side management or local generation;
 - (b) the postage stamp pricing approach is diluted by the different values of N being used to calculate the interconnection rate in different regions. Postage stamp pricing could be replaced with LRMC pricing; and
 - (c) guideline 12 may be inconsistent with pricing principle 2.1.

Concluding comments

28. This discussion paper provides a record of the issues relating to the current TPM as identified by members of the TPTG. Categorising the issues provides an indication of the area of the TPM structure to which the issue relates.
29. It is intended that the TPTG issues will be combined with other issues raised in previous submissions on the current TPM and issues identified from other sources. The combined issues list will contribute to the Commission's Transmission Pricing Review.

Appendix 1

Regulatory Framework Criteria

PRICING PRINCIPLES	
2.1	the costs of connection and use of system should as far as possible be allocated on a user pays basis;
2.2	the pricing of new and replacement investments in the grid should provide beneficiaries with strong incentives to identify least cost investment options, including energy efficiency and demand management options;
2.3	pricing for new generation and load should provide clear locational signals;
2.4	sunk costs should be allocated in a way that minimises distortions to production/consumption and investment decisions made by grid users;
2.5	the overall pricing structure should include a variable element that reflects the marginal costs of supply in order to provide an incentive to minimise network constraints;
2.6	transmission pricing for investment in the grid should recognise the linkages with other elements of market pricing (including the design of the financial transmission rights regime under section V, and any revenues from financial transmission rights);
3.1	In applying the Pricing Principles, Transpower and the Board should take into account practical considerations, transaction costs and the desirability of consistency and certainty; and
3.2	Where conflicts arise in applying the Pricing Principles set out in rule 2, they should be resolved with the objective of best satisfying the Board's principal objective.
Principal objectives	
a	to ensure that electricity is produced and delivered to all classes of consumers in an efficient, fair, reliable, and environmentally sustainable manner; and
b	to promote and facilitate the efficient use of electricity.
GUIDELINES	
1	The following paragraphs are the Guidelines required by rule 6.2 of section IV of part F of the Electricity Governance Rules 2003 (Rules), which Transpower must follow in developing the transmission pricing methodology.
2	The Commission may review an approved transmission pricing methodology in accordance with rule 11.2.
3	The purpose of the Guidelines is to ensure that, subject to Part 4A of the Commerce Act 1986, the full economic costs of Transpower's services are allocated in accordance with the principles specified in rule 2.
4	Transpower should provide an explanatory document updating "Pricing for Grid Connection Services," at a similar level of detail, and suitable for Transpower's customers to understand the basis on which it levies charges.
5	In proposing a detailed pricing methodology in response to the Guidelines, Transpower should detail the linkage between its charges for specific assets, its overall expected revenue and allocation of this to specific grid connection points.
6	The Commission notes that rule 12.3.1 of section III of part F of the Rules requires the provision of a comprehensive plan for asset management and operation of the grid. Accordingly the pricing methodology is to apply to the revenue required to meet all of Transpower's costs in providing transmission assets approved as part of a grid upgrade plan. If Transpower desires to seek recovery of costs through the pricing methodology that are not approved as part of a grid upgrade plan, then Transpower should propose a methodology for the determination and allocation of these costs.

7	Transpower may be required in the future to fund alternatives to transmission. Transpower should indicate in its proposed methodology how it intends to allocate the costs of transmission alternatives, if they are funded by Transpower.
8	Nodal pricing is a key component of transmission pricing, which Transpower should take into account when preparing its proposed transmission pricing methodology.
9	A definition of deep connection should be developed and applied consistently and transparently. The definition of deep connection must avoid subsidisation of interconnection assets to the extent practicable.
10	The costs of connection assets are to be recovered from those connected to them.
11	Where parties share the use of connection assets then the costs should be allocated among them on a peak demand or injection basis, in a manner than maximises efficiency.
12	Charges for existing and new interconnection assets should be on a postage stamp basis. This is similar to the current interconnection charges.
13	Transpower should review the existing basis on which it calculates the interconnection charges at a grid exit point. Specifically, Transpower should review whether using the 12 highest half hour offtake peaks in the 12 months up to and including the current month is the most consistent with the pricing principles in rule 2 of section IV of part F. This review includes consideration of anytime versus regional or national coincident peaks.
14	Transpower should also review whether permitting greater aggregation across GXP loads for the purpose of calculating interconnection charges to encourage peak load management within regions would produce prices more consistent with the pricing principles in rule 2 of section IV of part F.
15	The costs of the HVDC link and any replacement of or upgrade to it should be charged to all South Island generating stations that inject into the grid.
16	In allocating those costs, Transpower should consider the linkages with other elements of market pricing, and in particular, with the allocation of loss and constraint rentals or any revenue from financial transmission rights for transmission assets covered by the charge.
17	The approved costs incurred by Transpower in relation to interim grid expenditure approved under rule 16 of section III of part F of the Rules should be recovered on the basis of the pricing methodology for connection, interconnection assets or HVDC assets, as appropriate.
18	A prudent discount policy should be adopted to ensure that inefficient by-pass of the existing grid does not occur. Transpower should detail as part of the pricing methodology practical ways to facilitate greater transparency on this matter.
19	Overall transitional arrangements should be proposed where revision of the methodology leads to large increases or decreases in current charges.

Appendix 2

Weaknesses identified by individual TPTG members

<i>Weaknesses identified by individual TPTG members</i>	<i>Policy</i>	<i>Pricing principle rule #</i>	<i>Guideline #</i>	<i>Pricing component</i>
Mechanisms for providing benefits to alternative providers are inefficient and do not appear to facilitate appropriate outcomes.		2.2	7	Treatment of TX alternatives
Transmission asset-centric. The provision of transmission assets is usually only one among a range of potential solutions. The TPM weights the decision making in favour of choosing transmission asset solutions and these may not always be the most efficient answer.		2.2	7	Treatment of TX alternatives
Incentives for demand side management are limited (but this may not be an issue, given the availability of grid support contracts).		2.2	7	Treatment of TX alternatives
Averaged fixed cost recovery provides no incentives for local generation (unless very reliable or discretionary) or for location choices.	TPM is a cost allocation methodology	2.2	7	Treatment of TX alternatives
Transpower-centric. The provision of transmission assets is not a natural monopoly and should be a contestable service. The current methodology is designed to provide revenue to Transpower only. The methodology should provide revenue to whomever provides transmission services.	TPM is only for Transpower			All charges
Fixed cost recovery not suitable for some counter-parties (i.e. generators, some businesses).	TPM is a cost allocation methodology	2.4		Interconnection charges

<i>Weaknesses identified by individual TPTG members</i>	<i>Policy</i>	<i>Pricing principle rule #</i>	<i>Guideline #</i>	<i>Pricing component</i>
Inconsistency of similar 'spurs' i.e. Tiwai 'interconnection' vs Bream Bay "Connection".		3.1	9	Connection charges
Allocation versus "product" based pricing can provide significant "re-allocations" caused by 3rd party development or grid)	TPM is a cost allocation methodology		9	Connection and Interconnection charges
HVDC pricing allocation to SI generators only & hence additional costs to new generation in SI (cost allocation of the new Pole 3 ?).	TPM is a cost allocation methodology	2.1	15	HVDC charges
HVDC pricing is inconsistent.		2.1 [and 3.1]	15	HVDC charges
HVDC recovery causes non-linear distortions on new SI generators (the marginal HVDC cost is a lot lower for generation being added to a large cost base than for a new generator).		2.1	15	HVDC charges
Load shifting between UNI and LNI zones (Te Kowhai and Hamilton GXP) and impact on embedded generation.		2.3		Interconnection charges
No capacity rights.	Open access grid	2.4		
Complicated.		3.1		All charges
Not a pricing methodology (it is really an allocation methodology).	TPM is a cost allocation methodology			All charges
It is a complicated allocation methodology.	TPM is a cost allocation methodology	3.1		All charges
Pricing methodology treats new grid the same as existing grid (utilisation incentives change as grid expands). Arguably the current pricing methodology is only appropriate because the grid has been underinvested. If the grid was larger the peaking	TPM is a cost allocation methodology	2.5		Interconnection charges

<i>Weaknesses identified by individual TPTG members</i>	<i>Policy</i>	<i>Pricing principle rule #</i>	<i>Guideline #</i>	<i>Pricing component</i>
incentives might reduce capacity utilisation. Arguably the sunk grid peak incentives should be weakened and peak signals designed on the marginal cost of new assets (complicated).				
Price (revenue requirement) is reset every year. The limited avoidability of the methodology gets unwound over time.		2.4		
Grid investment should consider a causer pays approach (i.e. paying better regard to the signalling /use of total cost of delivered energy that the customer ultimately pays).		2.1		
Postage stamp pricing has been diluted (for example by use of non-uniform "N" peaks) and doesn't promote equitable price/quality tradeoffs.			12	Interconnection charges
Grid reliability standards, counter parties and pricing issues were considered in isolation (and continue to be). This does not promote the most efficient outcome and has led to inconsistencies - for example the different definitions for Core Grid between TPM and the security standards.		3.1		
Very large geographic regions.		2.3		Interconnection charges
Pricing methodology designed to encourage demand side response but most consumers are substantially insulated from the methodology and lines companies have pass through (peak shifting/shedding incentives actually pretty weak).		2.5		Interconnection charges
Local AMD "peak setter" not necessarily contributing to		2.1	13	Interconnection

<i>Weaknesses identified by individual TPTG members</i>	<i>Policy</i>	<i>Pricing principle rule #</i>	<i>Guideline #</i>	<i>Pricing component</i>
regional/interconnection revenue.				charges
Voltage support charges not in TPM.		2.1		
No dynamic signals for transmission investment (LMP actually creates tx investment disincentives).	TPM is a cost allocation methodology	2.5		Interconnection charges
(Long run) Marginal cost of transmission should be reflected to end users (including generators).	TPM is a cost allocation methodology	2.5		Interconnection charges
Existing methodology does not provide appropriate signals to ensure efficient generator investment and locational decisions.		2.3		Interconnection charges
It is not certain/clear it sends the right economic signals as regards the location of additional load and (particularly) generation, even when operation of GIT is taken into account.	TPM is a cost allocation methodology	2.3		Interconnection charges
Locational signals are limited to the connection charges, the slightly "tilted" RCPD charges and the HVDC charges.		2.3		Interconnection charges
The long run marginal costs (LRMCs) of grid investment are not signalled.	TPM is a cost allocation methodology	2.3		Interconnection charges
Price is not linked to service (poor economic incentives on Transpower).	TPM is a cost allocation methodology			Interconnection charges
Prices do not adequately reflect the range and level of services supplied and differences between customers.	TPM is a cost allocation methodology			Interconnection charges
Regionalisation approaches should be considered but need to reflect the different service levels provided.	TPM is a cost allocation methodology	2.3		Interconnection charges
Not customer/consumer focused. It does not provide any signals regarding the	TPM is a cost allocation methodology			Interconnection charges

<i>Weaknesses identified by individual TPTG members</i>	<i>Policy</i>	<i>Pricing principle rule #</i>	<i>Guideline #</i>	<i>Pricing component</i>
quality of the transmission services actually provided to consumers. Customers pay the same amount whether the service meets quality standards they desire (and are willing to pay for) or not.				
The Transpower-centric and transmission asset-centric nature of the TPM encourages "cost plus/monopoly provider" mentality in provision of transmission services.	TPM designed for Transpower			

Appendix 3

Strengths identified by individual TPTG members

<i>Strengths identified by individual TPTG members</i>	<i>Policy</i>	<i>Pricing Principle Rule #</i>	<i>Guideline #</i>	<i>Pricing Component</i>
Transmission pricing gives revenue certainty to Transpower.		3.1		
Transaction costs are reasonably low.		3.1		
The current TPM has been in use with only minor adjustments for a number of years so reasonably well understood by market participants.		3.1		
The methodology avoids unnecessary complexity.		3.1		
The definitions and processes are clear with minimal discretion accorded to Transpower – this has helped to minimise disputes and compliance costs generally. For example the codification of the requirements for granting prudent discounts has made this process transparent.		3.1		
Cost of interconnection assets are allocated to offtake based on demand		2.4		Interconnection charges
Costs are recovered in an unavoidable fashion with no Locational Marginal Price (LMP) distortion.		2.4		
The costs of the HVDC link are allocated in accordance with the Electricity Commission's determination of the principal beneficiaries of the link and its assessment of what would best provide incentives to those beneficiaries to identify least cost investment options.		2.1		
The costs of the HVDC are allocated in a manner that does not discourage embedded generation in the South Island.		2.4		
Connection assets allocated to		2.1		

<i>Strengths identified by individual TPTG members</i>	<i>Policy</i>	<i>Pricing Principle Rule #</i>	<i>Guideline #</i>	<i>Pricing Component</i>
the beneficiaries based on 'deep' connection basis.				
Asset return and maintenance recovery rates correctly recover the total costs of connection.		2.1		
There are strong incentives for embedded generation/bypass.		2.3		
The connection of efficient generation, including renewable generation, is encouraged by the correct allocation of connection asset costs to the beneficiaries of those assets and the allocation of interconnection costs to load.		2.1		Connection charges
The determination of charges for the following pricing year based on demands recorded during the capacity measurement period provides certainty to transmission customers and reduces compliance costs by removing the need for economic value adjustments as part of the allocation methodology.		3.1		
Charges do not vary markedly from year to year, promoting business certainty. The determination of charges for the following pricing year based on demands recorded during the capacity measurement period provides certainty to transmission customers and reduces compliance costs by removing the need for economic value adjustments as part of the allocation methodology.		3.1		