Transpower's Amended North Island Grid Upgrade Proposal

Report to MEUG

22nd November 2006

Preface

NZIER is a specialist consulting firm that uses applied economic research and analysis to provide a wide range of strategic advice to clients in the public and private sectors, throughout New Zealand and Australia, and further afield.

NZIER is also known for its long-established *Quarterly Survey of Business Opinion* and *Quarterly Predictions*.

NZIER was established in 1958.

Strata Energy Consulting Limited is a consulting firm specialising in the energy field. The company was established in 2003 by Bill Heaps who has developed an approach to provide advice to clients through his own resources and through a network of associate organisations. Strata Energy Consulting Ltd has completed work on a wide range of topics for clients in the energy sector in both New Zealand and overseas.

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1. Introduction

On 24th October 2006 Transpower New Zealand Limited (Transpower) lodged with the Electricity Commission (the Commission) an amended proposal for the North Island Grid Upgrade Project.[1] This updates, and replaces, in part, Transpower's original proposal which it submitted to the Commission as part of a full Grid Upgrade Plan (GUP) in September 2005. The Commission released a draft decision to decline the original proposal on 27th April 2006 and, at Transpower's request, the Commission suspended its consideration of the original proposal on 31st May 2006.

The Commission has announced that it will undertake two rounds of consultation on the amended proposal. The first in November 2006 to gives interested parties the opportunity to make initial written comments on the proposal, including consideration of the possible alternatives. The second consultation period will follow the Commission's announcement of its draft decision about whether to approve or to decline the proposal. The Commission hopes to announce its draft decision either in late December this year or early in the New Year. The Commission plans to conduct a full public consultation process about its draft decision during February and March 2007.

MEUG has engaged NZIER and Strata Energy Consulting (Strata Energy) to review Transpower's amended proposal and report on any aspects of the proposal that are unclear and any issues that warrant particular attention and scrutiny by the Commission during the course of it reaching its draft decision.

To support its amended proposal, Transpower has provided the Commission with an 84 page report. This document is supplemented by 5 Appendices and 15 Attachments. In the next section we briefly outline Transpower's amended proposal. In Section 3, we raise various matters we believe need to be clarified or investigated by the Commission in its assessment of the amended proposal. The final section contains a summary of the recommendations to the Commission of matters it should carefully consider when assessing Transpower's amended proposal. The focus throughout this paper is on significant and potentially material matters.

2. The Amended Proposal

The main components of the amended proposal are:

- The construction of a new double-circuit overhead transmission line of approximately 190 km from a new substation near Whakamaru in the central North Island to a new transition station on the southern urban edge of

[1] Transpower, *North Island Grid Upgrade Project Amended Proposal.*
http://www.electricitycommission.govt.nz/consultation/transpoweramendedproposal/view

Auckland. This new line will be capable of operation at 220 kV and conversion in the future to 400 kV operation.

- The construction of two underground cables from the new transition station to the Pakuranga substation in Auckland that are capable of 220 kV operation.
- The construction of the necessary substation and transition station facilities near the present Whakamaru station, at the transition station site on the urban edge of Auckland and at Pakuranga.
- Undertake the works necessary to convert and connect the existing 110 kV Otahuhu-Pakuranga line to 220 kV operation, for which it is already designed and consented.
- Dismantle the existing 110 kV Arapuni to Pakuranga transmission line.
- Plan the works, including the acquisition of designations, consents and easements to allow for future upgrade to 400 kV operation.

The intended commissioning date for the construction and dismantling components is 2011 "to prudently allow for potential delays due to delivery, designation, consenting and easement risks."[2]

The costs Transpower is seeking approval for in 2011 dollars are estimated at $824 million. This is made up of $614 million for the assets, $105 million in contingency provision, $25 million for exchange rate movements and $80 million interest during construction. Transpower's estimate of the nominal cost of its original 400 kV proposal to be commissioned in 2010 was $622 million. On a like for like basis, Transpower states its original 400 kV proposal would have cost $709 million in 2011 dollars compared with the $824 million for the amended proposal.[3]

3. Issues and Queries

3.1 Generation Scenarios

One of the important issues in relation to Transpower's original proposal which was not much discussed is where is the electricity to use the extra grid capacity going to come from. Since there is currently not a material difference most of the time in nodal prices between points just south of Whakamaru and Pakuranga or Otahuhu, there is not a *prima facie* case that the surplus generating capacity already exists south of Whakamaru. This means the additional electricity must come from new generation, but is this plausible and where is it going to be?

Transpower appears to address these questions in Attachment D of its amended proposal by including Table 3-1. This contains a long list of new generation plant

[2] Transpower, *North Island Grid Upgrade Project Amended Proposal*, p.6.

[3] Transpower, *North Island Grid Upgrade Project Amended Proposal*, p.37.

with scheduled years of commissioning out to 2029. The aggregate capacity of this generation plant is 2,496 MW. According to Transpower:

> *The generation development scenario used in the studies is based on the 'Large Hydro' scenario described in the Initial Statement of opportunity (SOO), July 2005 published by the Electricity Commission. However, it excludes any generation north of Whakamaru from that scenario. Table 3-1 shows the future generation development scenario assumed for the analysis.*[4]

The problems are:

- Table 3-1 includes generation that is electrically north of Whakamaru: Huntly E3P (374 MW, 2007);
- Table 3–1 includes generation that is likely to be largely used to serve growing local loads, or will be effectively behind transmission constraints at places such as Bunnythorpe: Makara Wind Farm (24 MW, 2008); Tararua Wind Farm Expansion (100 MW, 2009); Belmont Wind Farm (100 MW, 2022); and Makara Wind Farm Extension (100 MW, 2023);
- Table 3-1 includes Kiwi Cogen (15 MW, 2006), which is now unlikely to be built; and
- Table 3-1 excludes generation that is likely to be built in and around Auckland and hence reduce the need for transmission of electricity northwards from Whakamaru: Otahuhu C; Genesis Rodney Power Station proposal; Kaipara (tide and wind proposals); and various Auckland-based gas fired peaking plants.

We recommend the Commission carefully considers whether Transpower has established that there will be the surplus generation capacity to utilise the amount of additional transmission capacity between Whakamaru and Auckland Transpower is proposing and whether the additional supply of generation in Auckland will require this level of transmission assets.

3.2 Demand Growth

Transpower has based its load forecast in the amended proposal on the higher growth scenario in the Commission's 2005 Statement of Opportunities. In its original proposal it used the mid-point scenario. Transpower justifies its use of the higher growth scenario on the grounds that: load was higher than predicted during the 2006 winter; to use the high point is in line with good electricity industry practice; and "improvements in forecasting technology and methods."[5]

In the grid planning assumptions (GPA) the Commission recently discussed with industry participants, the demand growth forecasts were significantly lower than

[4] Transpower, *North Island Grid Upgrade Project Amended Proposal*, Attachment D, p.16.

[5] Transpower, *North Island Grid Upgrade Project Amended Proposal*, p.14.

those used in the Commission's initial 2005 Statement of Opportunities. Thus, Transpower has moved to a higher growth scenario while the Commission is looking to reduce its forward estimates of growth on the basis of improved forecasting technology and methods. Moreover, we do not consider it is good industry practice to adopt high-side estimates for base case scenarios which will be subject to sensitivity analysis any way.

We recommend the Commission carefully considers whether Transpower has adopted appropriate load growth scenarios given the evidence available on demand growth and the context in which its estimates will be used.

3.3 Option Descriptions and Range

Transpower has produced amended proposals to achieve an alternative to that proposed in the original proposal and to satisfy the objectives of the new Government Policy Statement (GPS) in relation to increased diversity of supply into Auckland. To achieve these objectives there are several projects at various stages in the approval process, the stages are:

- Common Augmentation work approved;
- Common Augmentation work yet to be submitted for approval; and
- Augmentation specific to the amended proposal.

There appear to be considerable interdependencies between the common augmentation work yet to be submitted and the augmentation specific to the amended proposal. These interdependencies relate to the increased diversity benefits claimed for the Upper North Island (UNI) supplies.

For example, in Transpower's Attachment D (page 40) the reason for the installation of the 220kV of the PAK – PEN cable is "to provide diversity of supply to the UNI". However, this benefit will only be obtained if the yet to be submitted common augmentations connecting Penrose and Hobson St, Wairau Rd and Albany are approved.

The Commission needs to be sure that its approval of the yet to be submitted work has not been assumed in the amended proposal as a foregone conclusion. Consideration of all the increased diversity related work under a single proposal would have enabled the full costs and benefits of the new GPS objective[6] to have been more clearly established.

In the amended proposal, Transpower has considered the specific augmentations required to complete 8 options. Transpower limited the number of options it would consider in detail by applying a diversity and capital cost test. The application of these tests produced three qualifying options:

[6] Paragraph 87A of the October 2006 Government Policy Statement on Electricity Governance

- Option 1: 220 kV into Pakuranga and Otahuhu
- Option 2: 400 kV into the South Auckland urban boundary, 220 kV into Pakuranga and Otahuhu
- Option 3: Augmentation of existing 220 kV assets

A fourth option, considered by Transpower to be non-qualifying, was included due to interest in this option from landowners and interest groups:

- Option 4: Augmentation of existing 220 kV assets using high temperature conductors

Transpower's dismissal of Option 4 on the grounds that Transpower has no experience of such technology appears to be somewhat unreasonable. Prior to the commissioning of the HVDC cables there was no experience in New Zealand and little in the world of this technology. The Commission should be satisfied that Transpower's concerns regarding the adoption of this technology are justified.

Transpower also considered three non-transmission alternatives each featuring the commissioning of a single generation plant in Auckland. It is interesting that Transpower has not considered Contact's proposed Otahuhu C CCGT combined with peaking plant as an option. By considering only single generation plant the diversity and peak capacity benefits are not seen. The Commission should consider if all the reasonable generation options have been reviewed by Transpower.

It is not clear if sufficient account has been taken by Transpower in assessing the potential impact of demand-side management. A non-transmission alternative that includes material demand-side management of system peaks combined with local generation has not been included in the assessment. This is an interesting omission especially when considered against Transpower's most recent transmission price methodology (TPM) proposal which contains a coincident peak component clearly targeted at reducing peak demand. If demand management potential is considered to be immaterial by Transpower then why is a coincident peak TPM being proposed?

The Commission should seek clarification from Transpower on the following two issues:

- If a reasonable allowance for demand-side management was included in the non-transmission alternatives would this have a material impact on the analysis and preferred option?

- Has the expected impact of the proposed transmission price methodology been considered in the use of load growth scenarios? If not why not?

There appears to be an error in the Option 2 description which the Commission should satisfy itself has not materially affected Transpower's analysis and conclusions. The error is seen in Figure 6-4 of Attachment D (page 44) where the

capacity ratings of the OTA – WKM A and B circuits are stated at 670/614 MVA. These circuits are in green which defines them as common augmentations, yet in Figure 5-1 (page 31) the capacities are states as 323/293 MVA.

The 670/614 MVA capacity value would be achieved by the duplexing of the circuits but as this is not included in the Option 2 schedule of work we assume that it is an error. If this assumption is not correct than the cost of duplexing the circuits should be included in Option 2.

It is likely that the circuit drawings provided in Attachment D are outputs from Transpower's models. It is therefore important that any flow on effects of the error in to the analysis and conclusions are identified and rectified.

3.4 Comparison of Options

Transpower has provided in Attachment F the cost breakdowns for the four options. A review of the costings has raised the following questions:

It is curious that several work items that appear to be common to Option 2 and others have lower costs in Option 2. For example, the table below shows the first four tasks in Options 1 and 2. In all cases the costs for Option 2 are lower, leading to a $271K difference in cost.

		Option 1	Option 2
2009	350 MVAR Static compensation	$ 7391	$ 7313
2010	Decommission 110kV ARI-PAK Line	$ 4051	$ 4009
2010	Drury Switching Station	$ 13065	$ 12930
2010	Drury Switching Station Lines	$ 1519	$ 1503
		$ 26026	$ 25755

Whilst there may be justifications for these differences, the occurrence of several small variations may, in aggregate, have an impact on the relative NPVs. It is recommended that the Commission reviews the cost differences for apparently common task items.

A significant additional cost in Options 3 and 4 is the additional property costs of $110 million and $55 million respectively for duplexing. This cost will be very material in the NPV for these options. The Commission should be satisfied that these costs are reasonable and realistic.

We understand that a significant quantity of the cabling is being undertaken to avoid future issues with urban sprawl rather than to meet specific technical or

consenting requirements. The effect of including cabling on the options comparison is to reduce the benefits provided by the 220 kV options. If this is the case, the Commission should give consideration as to whether these costs are appropriate to be included in the analysis as they do provide bias towards Option 2. In addition, the Commission should consider if the cabling is necessary at all, and, if so, is it appropriate that all electricity consumers pay for these direct benefits to the south Auckland region?

We consider that over the project timeframe new technology options will develop. The high temperature conductor duplexing (Option 4) is likely to become tried and tested technology within the timeframe of the overall GUP projects. The options evaluation has not taken into account the opportunity value which some options create for later utilisation of new technology. For example, Option 1 will allow the adoption of new technology over time whereas Option 4 locks in a current technology until 2038. Option 1 clearly holds value in leaving options open but this value is not included in the comparative assessment of the options.

Whilst not emphasised in the document, Transpower has, in its public releases, made claims that the preferred Option 2 enables more extensive development of renewable generation projects than the other options. To meet this claim the renewable generation would need to replace thermal generation north of Whakamaru. However, local generation provides much needed voltage support for Auckland and also reduces system losses. It may be that Transpower's claims are correct but careful analysis of the renewable scenarios and the need for additional investments to support these scenarios is needed rather than accepting these claims at face value.

3.5 Technical Considerations

Transpower's preferred Option 2, if approved, will place a significant increase of cables into this part of the transmission system. Due to the reactive power effect of the cables there is a requirement for large series compensation and this has been included in the proposals. We understand that such large series compensators have not been installed previously in New Zealand and Transpower has no experience of series compensation of this scale.

We consider that it would be prudent for the Commission to satisfy itself that there is sufficient confidence in the technology and its operation for use in the proposed situation. A review of international experience would be a valuable source of information on this issue.

Options 1 and 2 require the decommissioning of the 110 kV ARI – PAK line in 2010. It is likely that this may have an impact on security in the area, however, proposals include increased voltage support only. The Commission should seek assurances on how the period following the decommissioning will be managed and that all the necessary costs for this have been included.

3.6 Analysis Period

The Grid Investment Test (GIT) is laid out in Part F Section III Schedule F4. Rule 27 provides that market costs and benefits are to be assessed;

> *... over a period of 20 years from the commissioning date (unless significant market benefits or costs are expected to arise from the proposed investment or alternative project after that time, in which case the then present value of any future benefits may also be included*

In Transpower's reference case for the GIT evaluations which consists of a 220 kV line, a second 220 kV line is required by 2032, and in the amended proposal the 400 kV transformers are not installed until 2034.

In Transpower's view, "a 20 year analysis period, as required by the GIT, would not capture the significant market cost of installing the 400 kV transformers, which are required to access the full thermal capacity of the line commissioned in 2013". For this reason, Transpower extends the analysis period by 9 years to 2042 and then applies the Commission's methodology for terminal benefits and costs.[7]

In our view, Transpower's approach is not permitted under the rules. The installing of the 400 kV transformers in 2034 and the second 220kV line in 2032 are not part of the "proposed investment or alternative project" as is required for their costs and benefits to be counted. They are subsequent investments which may or may not be made. It is clearly stated in the amended proposal that the 400 kV operation will be "subject to later Commission approval".[8]

This is not an insignificant issue as confining the application of the GIT to costs and benefits which are "expected to arise from the proposed investment or alternative project after that time" is likely to alter the proposal that has the highest net benefit under the GIT. Moreover, the wording of this aspect of the GIT is not an accident or a mistake. In our view, it would be quite inappropriate to have a decision making process that chooses between two investments on the basis of what subsequent investments might follow them in more than 20 years time, and what these might or might not cost. The ability to forecast technology and asset prices and costs out 20 years is not such as to make this form of decision making robust, but this type of decision is precisely what Transpower is trying to encourage the Commission to engage in.

We recommend the Commission carefully considers whether Transpower's approach to extending the period of analysis is consistent with the GIT and, if it is, consider whether the approach is appropriate in the light of the uncertainties about future technology and asset prices.

[7] Transpower, *North Island Grid Upgrade Project Amended Proposal*, Attachment E, p.7.

[8] Transpower, *North Island Grid Upgrade Project Amended Proposal*, p. 5.

3.7 Cost Estimates

Transpower is seeking approval for $824 million in 2011 dollars. This represents the 90% limit of estimated project costs developed using a Monte Carlo technique. This technique takes into account variations in: exchange rates; inflation; real interest rates; property cost escalation; price accuracy; and scope contingencies. We have already noted the increase in costs since the original proposal was tabled. The amended proposal is $115 million in 2011 dollars more expensive than the 400 kV original proposal.

The ranges Transpower has chosen for inflation (2% - 4%) and real interest rates (6% to 8%) in the Monte Carlo analysis appear slightly too high to us. However, this is unlikely to be material to the outcome.

Of significantly more concern is the lack of detail justifying Transpower's costs are efficient and the absence of any incentive for Transpower to restrain its proposed costs to the efficient level. The amended proposal appears to be based on Transpower receiving its upper estimate of costs plus a margin plus a contingency.

We are of the view that the Commission needs to carefully scrutinise Transpower's proposed costs and look for ways to ensure it will seek out cost savings in planning and construction.

3.8 Expenditure Coverage

Transpower has sought approval in its amended proposal for $27 million for investigations. The dividing line between what is capital expenditure and what is operating expenditure for investigations is not always easy to draw in practice.

We suggest the Commission should assure itself that all the activities to be covered by the $27 million are capital expenditure to be spent on the amended proposal.

3.9 Discount Rate

Transpower uses in its GIT analysis the 7% real rate prescribed in the rules and it conducts sensitivity analysis by varying the rate from 4% to 10%. However, Transpower has included as an attachment a report it has received from consultants which argues that the discount rate to use in the GIT should be in the range 2.72 – 4.18%. Transpower describes the advice as "compelling".[9]

The essence of the argument of Transpower's consultants is that the GIT is essentially a social cost benefit analysis, not a private investment analysis and the

[9] Transpower, *North Island Grid Upgrade Project Amended Proposal*, Attachment E, p.14.

appropriate discount rate for a social cost benefit analysis is the social rate of time preference (plus a factor to allow for risk).

However, our observation is that the standard practice in social cost benefit analyses is to use low discount rates based on the social rate of time preference when the dominant welfare impact is changes in future consumption. It is then common to loosely base the discount rate around some retail deposit rate as an approximation of the opportunity cost of consumption. Social cost benefit analyses that assess whether major investments are worthwhile tend to use discount rates based on the social opportunity cost of capital, which is usually derived from some variant of the borrowing rate or WACC. The GIT seems more akin to the latter than the former.

We suggest that before the Commission is influenced to favour the lower end of the discount rate spectrum by the supporting attachment to Transpower's amended proposal, it obtain a thorough review of the use of discount rates in regulatory tests like the GIT.

3.10 Value of Unserved Energy

In considering the timing of the line upgrade, Transpower has used the value of unserved energy. The base value it has adopted is $20,000 per MWh, as required by the GIT and the sensitivity values it has used are $10,000 per MWh and $40,000 per MWh. The latter figure is above the $30,000 upper sensitivity figure prescribed in the GIT. Transpower has adopted this higher figure because of advice it received from a consultant that there is a strong case for unserved energy in the Auckland region being valued at $41,000.[10]

Transpower's consultant has not, in our view, asked the right question to properly estimate the value of unserved energy due to a transmission capacity constraint. What the consultant has effectively tried to estimate is the weighted average cost to electricity consumers from an interruption of supply with the weights based on the proportions of load used by broad classes of consumer: households, commercial, industrial, etc.

Load shedding to ration available electricity due to a transmission constraint will generally not be spread among consumers according to their load. It will often fall most heavily on residential consumers, who also have the lowest opportunity cost for electricity, and by a substantial margin from other groups. Thus, Transpower's consultant's estimates are undoubtedly overstatements of the value of unserved energy resulting from transmission constraints. Most estimates, including those on which the Commission's current parameters for the GIT are based, are vulnerable to this criticism. They confuse the (weighted) average consumer with the marginal consumer who actually loses load, but in economics it is the marginal player that usually matters.

[10] Transpower, *North Island Grid Upgrade Project Amended Proposal*, Attachment E, p.16.

We urge the Commission to review the values of unserved energy it prescribes for use in the GIT and to take a cautious view of Transpower's argument that the value of unserved energy in Auckland is $41,000 per MWh.

3.11 FDI and Gold Plating

Attachment N of Transpower's amended proposal contains the following argument:

- Confidence in infrastructure is important to attract foreign direct investment (FDI);
- FDI makes a positive contribution to economic growth (of GDP);
- Much economic growth has the effect of increasing economic welfare;
- Those that control FDI do not have good information about the countries in which they invest but respond to hearsay and "grand gestures";
- Controllers of FDI have a poor view of Auckland's infrastructure; and
- The "grand gesture" of building an upgraded grid into Auckland in advance of actual need will stimulate FDI and economic growth to such an extent as to more than compensate for the inefficiency of the investment.

If this is correct, then we have found the holy grail of getting back into the top half of the OECD. All we need to do is over-invest in infrastructure.

One flaw in the argument is the assumption that those controlling FDI are ill-informed about the reality of infrastructure. It might be that some will pass up good investment opportunities because, as Attachment N suggests, they listen to academics and journalists, but the argument requires all to do so, or at least sufficient that investment is reduced. A second flaw is the assumption that those controlling FDI will not notice that the costs of gold plating infrastructural assets like grids will raise the costs of electricity consumers in the country. High costs and inefficient infrastructure investment are likely to discourage FDI investors, not attract them.

We recommend the Commission disregard the argument that gold plated transmission investment into Auckland will fool controllers of FDI and result in a sharp rise in New Zealand's economic welfare.

3.12 Transparency

We note that two requirements newly introduced into the GPS are that "grid upgrade plans should demonstrate the rationale for all expenditure (operation, maintenance and capital)"[11] and that the EC should ensure "affected parties are fully consulted on grid upgrade plans."[12] After having read in detail the material

[11] GPS, para. 87C.

[12] GPS, para 87F.

provided by Transpower we believe Transpower's presentation is not as clear as it could or should and that it has not provided enough information to make it easy for interested parties to fully replicate all its calculations.

The Commission produced a very useful spreadsheet as part of its draft decision on Transpower's previous 400 kV proposal.[13] It would have been very helpful if Transpower had produced a similar document for its amended proposal.

We suggest that the EC must seek a very high standard of transparency in all the detailed material it will obtain from Transpower, and others.

4. Recommendations

- We recommend the Commission carefully considers whether Transpower has:
  - established that there will be the surplus generation to require the amount of additional transmission capacity between Whakamaru and Auckland it is proposing;
  - adopted appropriate load growth scenarios given the evidence available on demand growth and the context in which its estimates will be used;
  - adopted an approach to extending the period of analysis is consistent with the GIT and, if it has, consider whether the approach is appropriate in the light of the uncertainties about future technology and asset prices;
  - proposed efficient costs and the Commission should look for ways to ensure Transpower will seek out cost savings in planning and construction; and
  - only included capital expenditure items in the $27 millions of investigations for which it is seeking approval.
- We recommend that the Commission reviews Transpower's capacity figures for the OTA – WKM A and B circuits and any impact this error may have had on the analysis.
- We recommend the Commission should seek answers regarding the variations in cost between apparently similar tasks in the Costing Report. In addition, the Commission should be satisfied that the significant additional property costs for the duplexing options are reasonable and realistic.
- We recommend that the Commission considers the opportunity benefits through the adoption of future new technology that some options create. Comparative analysis of the options should include this value.
- We recommend that the Commission seeks clarification from Transpower on the following two issues:

[13] See http://www.electricitycommission.govt.nz/opdev/transmis/400kv/sourcefiles

- If a reasonable allowance for demand-side management was included in the non-transmission alternatives would this have a material impact on the analysis and preferred option?
- Has the expected impact of the proposed transmission price methodology been considered in the use of load growth scenarios? If not why not?

- We recommend that the Commission seeks assurances on the technical and operational issues regarding the series compensation and decommissioning of the 110 kV ARI – PAK line.
- We recommend that the Commission considers the appropriate allocation of the costs of cabling when completing comparisons of the options.
- We recommend that before the Commission is influenced to favour the lower end of the discount rate spectrum by the supporting attachment to Transpower's amended proposal, it obtain a thorough review of the use of discount rates in regulatory tests like the GIT.
- We recommend the Commission to review the values of unserved energy it prescribes for use in the GIT and to take a cautious view of Transpower's argument that the value of unserved energy in Auckland is $41,000 per MWh.
- We recommend the Commission disregard the argument that gold platted transmission investment into Auckland will fool controllers of FDI and result in a sharp rise in New Zealand's economic welfare.
- We recommend the EC seeks a very high standard of transparency in all the detailed material it obtains from Transpower, and others.

In our view, the Commission undertook its preliminary evaluation of Transpower's 400 kV project in a thorough and professional manner. We commented at the time that the Commission had done more than we thought the rules required but that this was justified in the first application of the GIT because Transpower had done less. We note the new GPS contains a paragraph giving a clear delineation of the role of the Commission and of Transpower in relation to grid upgrade plans. The Commission's role is restricted to reviewing and approving Transpower's plans.

We trust this is not a signal from Government that the Commission should be less thorough and less professional in its assessment of Transpower's amended proposal than it was of the initial 400 kV proposal. We do not think the rules are consistent with the Commission adopting a very narrow role of rubber stamping Transpower's proposals without assessing alternatives and options. The Commission is intended to be a guardian of the interests of consumers under Part F.