



MAJOR ELECTRICITY USERS' GROUP

22 June 2007

Mr Peter Griffiths
Manager Power System Analysis
Transpower
By email to peter.griffiths@transpower.co.nz
And gridinvestmentprojects@transpower.co.nz

Dear Peter

Submission on proposed HVDC options, methodologies and assumptions

1. This is a submission by the Major Electricity Users' Group (MEUG) on the material published on the web by Transpower (the "consultation papers") relating to the HVDC Pole 1 retirement/replacement investigation. This material was also presented and discussed at a Transpower convened workshop on 8 June 2007.
2. MEUG congratulates Transpower on the consultation process to date on this complex and important decision.
3. Answers to six of the questions in the consultation papers follow. This submission concludes with other comments not covered in the questions.

Methodology Question Q.2.1: Are the criteria outlined above suitable for Options screening purposes?

4. MEUG note the "facilitating renewable" screening criterion does not affect sorting options from the long-list to the long-short list. Nevertheless there is a point of principle regarding whether that criteria should be considered at all. While it may not "bite" for the HVDC investigation, it may be critical for future economic GUP investigations.
5. MEUG suggest that if two options, one being renewables dominated and the other being non-renewables, had near equivalent Net Market Benefits in an initial screening process, then both should proceed to the next more comprehensive step of analysis. This is not the outcome that would occur if the facilitating renewables screening criteria were used. MEUG believe this would be the wrong outcome as it could remove a non-renewable option that if investigated in detail might prove to have the highest Net Market Benefit.

Methodology Question Q.5.1: Is it appropriate to use market-led generation expansion in the analysis?

6. Yes, if the analysis is robust and proven. The EC GEM model is new and untested and therefore there are some risks. MEUG agree with the comment on page 12 of the Methodology paper that, "due to the novelty of modelling market-led generation expansion, a sensitivity analysis based on national least cost generation expansion will be carried out as well."

Methodology Question Q.5.7: Are the validation steps mentioned above enough to make the PLEXOS model results trustworthy for use in the GIT analysis?

7. At the conference there was a discussion on the difficulties interested parties would have to replicate GIT results if Transpower use PLEXOS. MEUG agree Transpower needs to consider this point.

Assumption Question Q.2.1: Are the generation scenarios advised by the Commission reasonable?

8. MEUG suggest the 50% weighting for the "Primary Renewables" scenario is unjustified. We suggest each scenario be given equal weighting. The reason given for the higher weighting is that this aligns with Government preferences for renewables. However the preference for renewables is manifest through the assumptions used in constructing the scenarios such as new C-taxes and much higher gas prices than at present. Those assumptions will drive more renewables than would otherwise be built. To overlay those assumptions with a higher weighting for the renewables scenario is double-counting in favour of renewables.
9. Without any other way to distinguish between the scenarios, then an equal weighting by default should be applied.
10. MEUG suggest Transpower needs to be prepared for public announcements on the future of the Tiwai Aluminium Smelter either before a GUP is tabled with the EC or at the latest by early next year. If those announcements confirm the plant will continue operation than the "SI Surplus Renewables" scenario will become obsolete. A fall-back weighting for the remaining 3 scenarios should be considered. If this occurs then MEUG recommend that the remaining 3 scenarios be given equal weightings.
11. If the parties decide that the Tiwai Aluminium Smelter should cease in 2012 than that also will be known either later this year or early next year. In that case the scenarios will also have to be adjusted.
12. Otahuhu C does not feature in either the Primary Renewable scenario or the SI Surplus Renewables scenario. MEUG believe that for both of those scenarios Otahuhu C is likely to be built within the next 3 decades because:
 - a) Contact Energy announcements about Otahuhu C refer to a deferral of Otahuhu C until after they have built their geothermal options around Taupo rather than Otahuhu C being cancelled. For example Contact Energy has not announced they will sell the Otahuhu C site, ie they are keeping as a longer term option rather than commission as early as 2011 (as assumed in the Mixed Technologies scenario and High Gas Discovery scenario).
 - b) In the Transpower GUP for the Otahuhu substation part of the works for which approval has been sought includes connection assets for Otahuhu C, ie Transpower are assuming Otahuhu C will be built.

- c) Eventually a decision to retire TCC will be made. Assuming national gas supplies are constrained; then there will be a trade-off between increasing costs of maintaining TCC versus a new state of the art CCGT plant at either the existing TCC site or Otahuhu C. MEUG believe given the proximity to demand, Otahuhu C will be more economic. It's unclear if the EC GEM model or Transpower models currently assess this trade-off.
- d) From a security of supply point of view MEUG believe it's inevitable that more thermal in Auckland will be desirable. The transmission system servicing Auckland is being stressed. Building new lines may help but as evidenced last June and just this week, transmission and distribution failures at substations also have significant impacts. Extra generation within Auckland would help supply diversity and hence Otahuhu C (or Rodney CCGT) is desirable even in the Primary Renewable and SI Surplus Renewables scenarios.

Assumption Question Q.3.1: Are the generation cost assumptions, including the scenario drivers, reasonable?

- 13. MEUG suggest the C-tax assumptions need to reviewed to consider the following:
 - a) Zero effective C-tax before 2013, ie after the end of the Kyoto fist commitment period. A C-tax before that date is unlikely because MEUG do not believe it will be politically tenable given the failure to gain traction on radical climate change policies in New Zealand to date (eg the \$15/t CO₂ tax failure) and increasing pressure to align New Zealand's introduction of emissions trading to the timetable recently announced by Australia of 2012.
 - b) Based on experience in other emission markets, notably NO_x in the US, predictions of very high market prices before the market started were not borne out by actual prices once trading commenced. There is a tendency for C price forecast predictions to be higher and higher but there is no market evidence that that will be the case. MEUG suggest that there is a considerable range of uncertainty about forecast C charges and it would therefore be prudent to use an expected, high and low range for each of the scenarios. A scenario assuming a C-tax near zero would be prudent.

Assumption Question Q.3.3: Are there any other sets of drivers, Transpower should be considering in this analysis?

- 14. It would be useful to know if uncertainty on exchange rates affecting the capital cost of both transmission and generation capital costs might affect the relative benefits of different options.

Other comments

- 15. MEUG agree with the approach of using as the counterfactual or base case the scenario where Pole 1 is retired in 2012 and there is no replacement.
- 16. The EC have announced a deferral for finalising the 2007 SOO until after the finalisation by government of the New Zealand Energy Strategy (NZES). The Minister of Energy has announced the NZES will be finalised and published by September. MEUG suggest it may be prudent for Transpower to wait until the 2007 SOO is finalised by the EC before deciding the final suite of assumptions otherwise the EC next year when assessing the GUP proposal will be using the draft 2007 SOO assumptions rather than the final 2007 SOO.

17. It may be useful to have some dialogue with interested parties about the output of the models and how those might be presented in more usable format. For example in the Upper NI GUP Transpower published or provided simplified spreadsheets to enable parties to examine mid-point results. However in other GUP, such as the Otahuhu substation GUP, such material was not published.
18. Transpower should consider calculating and publishing for each option the "indicative pricing impacts" of each option. Part F, section III, rule 12.3.4 provides for this information to be included in GUP. MEUG believe this information set out on a year by year basis would be of interest to the public.

Yours sincerely

A handwritten signature in black ink, appearing to read 'R. Matthes', written over a thin red vertical line.

Ralph Matthes
Executive Director