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Mr Calum Gunn
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Dear Calum

Transpower ODV Handbook Cross Submission – 30 April 2004

Introduction

During Transpower's submission to the ODV Handbook Conference on Thursday 15 April 2004, the Commerce Commission requested further information that could not be immediately provided. Subsequently, the Commission issued an information request seeking that information. This cross submission deals principally with that information request.

In addition, there are some other issues that the Commission raised during the Conference which in Transpower's view require further clarification.

Example of use of a 35 year planning horizon

The information request in relation to the 35 year planning horizon is noted below:

Please provide a real life example where Transpower has made an investment decision consistent with a 35 year planning horizon.

Investment in the national grid over the past 15 years has been well below the level undertaken prior to that period. In fact, in the 1990s and 2000s, new investment was at the lowest level for 80 years (refer Figure 1). Hence, there are few examples of Transpower using a long planning horizon in the last 15 years.

Transpower has identified two examples where extended planning periods were used, dating back to 1988 and 1989:

- 220kV reinforcement for the east coast of the South Island (1988)
- Ashburton 220kV connections (1990)

In both of these examples, a planning horizon of 32 years was used to analyse the various investment options available. The 220kV reinforcement reviewed three separate options and the Ashburton 220kV connection reviewed six separate options.

Looking forward, one of the aims of the ODV methodology is to ensure dynamic efficiency (in this context, to ensure new investment is efficient). The ODV Handbook will govern the practical application of the ODV methodology and, therefore, needs to retain its relevance to the investment conditions of the time so that the aims of the ODV methodology continue to be achieved.

During the 1990's there was sufficient capability in the existing 220kV system to add incremental capacity relatively cheaply and the low level of recent investment is consistent with the incremental solutions that have been implemented over the past 10 to 15 years.

However, the grid is now rapidly approaching a situation where it will no longer be possible to increase capacity further without building new lines.

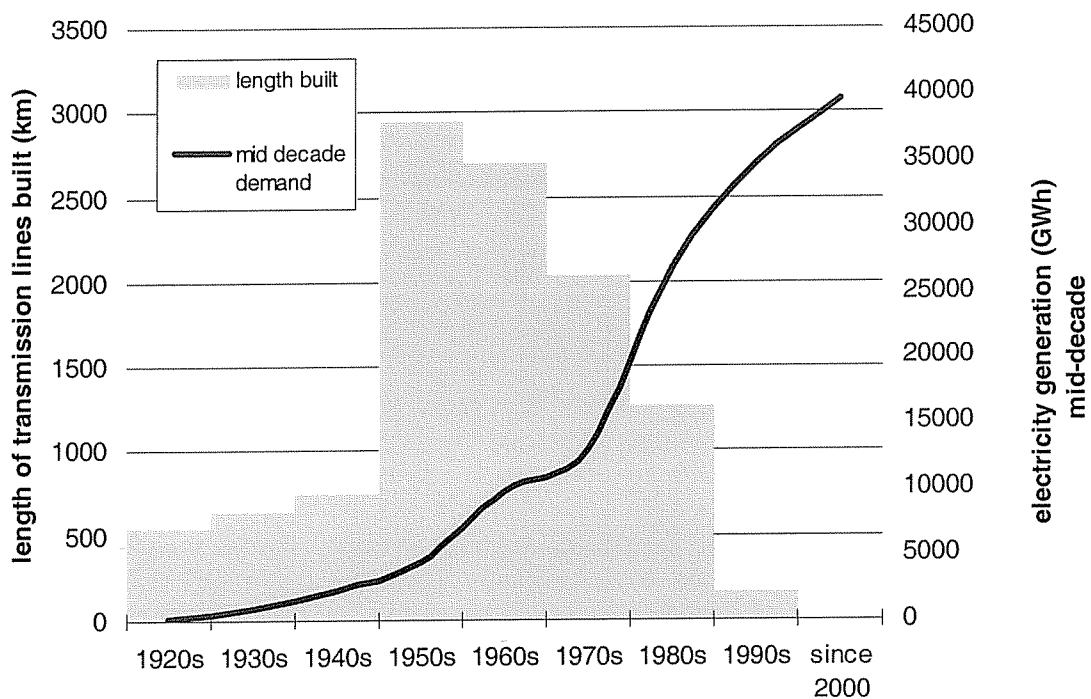


Figure 1: Past investment in the National Grid and increase in generation capacity

The last large scale grid upgrade was during the 1950s and 1960s (which is when the majority of the 220kV grid was built) i.e. 40 to 50 years ago, approximately the physical life of the assets.

Transpower emphasises that moving to a 35 year planning horizon only increases the number of alternative investment solutions to be investigated. It does not mean every asset due for replacement will be replaced with the largest capacity asset but does mean that the most economic solution will be implemented - such as where there are sufficient economies of scale to justify a larger capacity asset.

Example of sub-optimal investment because of the ODV Handbook

The second information request was:

Please identify the instances during the last five years where Transpower has not undertaken what it believed to be optimum investment options as a result of the valuation prescription under the ODV Handbook.

The underlying issue of the "optimality" of previous grid investment was previously assessed by the Commission at its Conference held in relation to the authorisation of EGBL Limited¹, especially when the proposed Part F rules (under the EGBL rulebook) were addressed.

At that Conference, a range of interested parties noted that Transpower had "under invested" in the National Grid². Transpower confirmed those comments in our oral submission of 25 and 26 June 2002³. In addition there was general acceptance by the Commission that there has been under investment in the grid.⁴

Typically, the lack of investment in the grid referred to at the Conference, was investment to relieve constraints on the grid. This type of investment does not significantly improve security of supply.

Transpower would only undertake investment to relieve constraints on the grid when an economic return could be generated. This would only be possible under a new investment contract, negotiated directly with a customer or customers, that had provisions to ensure recovery of the full costs of the investment from the customer(s). However, for investment to relieve constraints, without effective regulation, Transpower has not been able to negotiate such contracts and thus "efficient" investments of this type typically did not proceed.

However, as emphasised at the EGBL Conference by Transpower⁵, Transpower has always undertaken and continues to undertake investments where security of supply

¹ Commerce Commission decision 473, September 2002

² The parties who confirmed Transpower has under invested include:

- Mighty River Power, line 41, pg 5, EGBL Conference Transcript 14 June 2002
- Major Electricity User's Group, lines 40 – 49, pg 100, EGBL Conference Transcript 19 June 2002

³ Refer to lines 25 – 43, page 97, EGBL Conference Transcript and lines 27 – 32, page 1, EGBL Conference Transcript 26 June 2002

⁴ Lines 24 – 31, page 69, EGBL Conference Transcript 26 June 2002

⁵ Lines 27 – 32, page 1, EGBL Conference Transcript 26 June 2002

is at risk. This has resulted in investments proceeding that do not generate an economic return from Transpower's perspective, because the ODV Handbook has not allowed the full cost of the investment to be capitalised.

For example, in October 2003 thermal upgrades of lines in both the North and South Islands were approved by the Transpower Board. This work, which will provide an additional five years of capacity on critical, heavily loaded circuits into Auckland and Christchurch, will cost approximately \$17 million. However, the ODV uplift is only \$5 million on assets with building block costs totalling \$228 million. The \$12 million write-off reflects the fact the marginal increase in capacity is a labour intensive process that is not recognised in the ODV building block costs.

Brownfields vs Greenfields Replacement Costs

At the ODV Handbook conference, the Commission questioned Transpower about the Brownfields issue and we feel further clarification of the issue is appropriate⁶. Transpower's concern is that replacement costs are too low because of an inappropriate Brownfields definition. Transpower is happy how Brownfields relates to optimisation criteria.

As defined in the draft ODV Handbook, the building block replacement costs are appropriate for large-scale asset development such as construction of a complete substation, circuit or feeder. However, in reality, most asset replacement is undertaken at a much smaller scale, such as replacement of individual transformers, circuit breakers and towers. This results in building block replacement costs being too low.

For the sake of clarity, Transpower still expects a standardised replacement cost approach to be used. We are not advocating the use of actual costs, but recognition that the vast majority of construction over the past 15 years has been small scale and not large scale. In the future, small scale construction will continue at a similar rate, notwithstanding the proposed large 400kV construction project.

The most recent example is the replacement of two transformers at Dannevirke. Dannevirke required two 110/11kV 20 MVA transformers. The ODV replacement cost for these transformers was \$1.75 million, although the estimated cost was \$2 million. The main cause of the difference is project management overheads and other one-off project costs. When applied to large-scale construction these "fixed" project costs can be spread across several new assets, whereas in this example, the project costs comprise a significant proportion of the total project costs.

The issue is significant. In the Dannevirke example it results in Transpower taking a \$250,000 (>10%) write-off by undertaking the work, resulting in a material under-recovery of investment costs.

⁶ Pages 174 – 176, ODV Handbook Conference Transcript, 15 April 2004

Updating Transmission Replacement Costs

Transpower wishes to clarify its position with regard to the updating of replacement costs.

Transpower's submission of November 2003 was made on the expectation that DHC would be an allowable valuation methodology for the purposes of Transpower's 30 June 2004 valuation. At that stage, Transpower did not anticipate that it would be required to undertake an ODV for 2004 and, under those circumstances, Transpower submitted that the costs of providing detailed replacement cost information exceeded the benefits of doing so.

Having said that, in paragraphs 72 and 73 of the November 2003 submission, Transpower clearly indicated that the replacement costs did need updating and invited the Commission's advisors to "meet with Transpower to determine which material may be of use in the development of the new ODV Handbook."

The Commission's advisors chose not to meet with Transpower. Instead, Parsons Brinckerhoff Associates agreed with our position in recommending "that Transpower's request to use its 2003 ODV valuation adjusted for asset additions and deletions in the 2003/04 financial year using actual costs, as its 2004 opening valuation should be agreed to."⁷

The Commission decided not to follow this recommendation. Moreover, the Commission clearly indicated that it would require Transpower to undertake an ODV valuation using a new ODV Handbook. In accepting that it was firmly the Commission's position that Transpower must undertake a 2004 ODV valuation, and in light of the Commission's position, Transpower revised its submission accordingly and submitted that the replacement costs should be updated, consistent with the approach applied to distribution replacement costs.

Using Non-Standard Building Blocks

Transpower's interpretation of paragraph 2.15 of the draft Handbook is that all non-standard building blocks have to be disclosed along with information supporting the calculation of the replacement costs. Transpower's view is that for those non-standard building blocks that have been audited, there is no benefit to the readers of the report from publishing all of the supporting material. Transpower estimates that providing the additional supporting material would result in the valuation report increasing in size by up to 1000 pages.

In addition, the draft Handbook does not state what a standard building block is, other than referring to a list of assets in Appendix A. It is unclear what it is about the listed building blocks that makes them standard as opposed to non-standard? In Transpower's view, there is no difference in principle, as both standard and the non-standard building blocks currently used:

⁷ Pg 4-10, Parsons Brinckerhoff Associates, Development of a Handbook for Optimised Deprival Valuation of System Fixed Asset of Electricity Lines Businesses – Draft Report, 23 December 2003

- have been reviewed by external auditors
- are commonly used by Transpower
- have been disclosed for several years in Transpower's annual ODV valuation report

Transpower is happy with the requirements of paragraph 2.15 so long as it relates to new non-standard building blocks i.e. all building blocks that have not been audited or are currently not in use.

Therefore, the most pragmatic solution is for Transpower's "non-standard" building blocks to be classified as "standard" for the purposes of the new ODV Handbook.

Concluding Comments

This submission has been written on the assumption that Transpower is currently required to undertake ODV valuations on an ongoing basis beyond 2004.

We would be pleased to provide further explanation of any of the comments contained in this letter or in our previous submissions.

Yours sincerely



Glen Thomson
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