



TransGrid Response to
GHD's Final Report to ACCC

“TransGrid Regulatory Review – Capital Expenditure
and Asset Base, Operation Expenditure and
Service Standards”

April 2004

TABLE OF CONTENTS

1	Introduction	3
2	Assessment of the Prudence Of TransGrid’s Past Capital Expenditure – Augmentation Expenditure	3
3	Inappropriate Comments in Relation to the Sydney CBD Project	5
4	Residual Doubts About the Basis for TransGrid’s Non-Augmentation Expenditure	5
	Clarifying GHD’s Analysis	5
	Transformer Replacement Expenditure	6
	Major Replacement Projects.....	7
	Accounting for Motor Vehicles.....	7
5	Basic Errors of Analysis in Relation to TransGrid’s Operating Expenditure Needs	7
	Accounting for Outsourcing Opportunities	8
	Misunderstanding the Role of Overtime.....	8
	Modelling of Labour Cost Movements	8
	Incorporating Business Growth into Operating Expenditure Modelling.....	8
	Arbitrary Selection of Efficiency Targets	9
6	Service Standards and Performance Incentives.....	9
7	Forecast Capital Expenditure	9
8	Other Matters	10
9	Conclusion	10

1 Introduction

This submission is TransGrid's formal response to the GHD Final Report to the Australian Competition and Consumer Commission dated April 2004 and entitled "*TransGrid Regulatory Review – Capital Expenditure and Asset Base, Operation Expenditure and Service Standards*".

By way of background, TransGrid was provided with a copy of the draft of this Report on 19 March 2004. Both the Commission and GHD advised TransGrid that any factual errors would be considered and addressed by GHD provided that these errors were identified by TransGrid before 2 April 2004. In response TransGrid identified and documented over 100 errors or misunderstandings within this Report. GHD were provided with only four business days to review TransGrid's response, form a judgment as to whether adjustment to the draft report was required, and amend the draft report as deemed appropriate. It is the view of TransGrid that insufficient time has potentially prevented GHD from fully addressing the need for further amendments to the report based on the additional clarifying information.

In this context, and given the complexity and scope of the review, it is not surprising that some important issues detrimental to the integrity of the review remain within the GHD Final Report. Given the importance of this Report in assisting the Commission and interested stakeholders in arriving at a considered view of the revenue needs for transmission service in NSW, it is vital that the most significant of the remaining issues are appropriately addressed. Key remaining concerns are:

- i the inconclusive assessment of the appropriateness of TransGrid's historic capital expenditure;
- ii inappropriate remarks in relation to TransGrid's Sydney CBD project;
- iii residual doubts about the basis for TransGrid's non-augmentation expenditure both historically and in the future;
- iv errors of analysis in assessing TransGrid's operating expenditure needs leading to recommendations for substantial unjustified reductions in TransGrid's operating expenditure allowances both historically and in the future;
- v inappropriate adjustments to TransGrid's service performance targets and associated incentive scheme.

This submission addresses each of these points in turn as well as summarising a number of other residual issues within the GHD Final Report.

2 Assessment of the Prudence Of TransGrid's Past Capital Expenditure – Augmentation Expenditure

TransGrid recognises that GHD's brief from the Commission has been very challenging, particularly in terms of time, information requirements, and the evolving nature of the Commission's regulatory principles as a first stage of a wider process of regulatory reform. In this regard, the Commission's own assessment of the challenges confronting GHD (or any other party for that matter) in carrying out an ex-post "prudency review" of TransGrid's capital expenditure are relevant. In its discussion paper on this topic dated 10 March 2004, the Commission observed that "*the Commission's task in determining which projects are efficient is not a straightforward task. It requires detailed analysis*

and potentially involves a time and resource intensive analysis of the costs and benefits of each project.”

This is the first time in the NEM regulatory process that the ACCC has been required to establish the prudence of historic capital investment in the regulated transmission network. Consequently, there has been neither precedence nor any previously established process for the consultant to follow, and no clear indication of the level of information needed to be provided by the transmission asset provider.

In TransGrid's view, the scope of the task facing GHD has contributed to the incomplete and inconclusive conclusions in the Final Report, particularly in relation to the assessment of historic capital expenditure.

However, this has been compounded by GHD's apparent difficulty in interpreting the relevant principles to apply in determining whether capital expenditure is prudent. GHD confuses the application of the Commission's Draft Regulatory Principles for assessing the prudence of capital expenditure with the Commission's 1999 Capital Expenditure allowance for TransGrid, and with the estimates used in carrying out the regulatory test.

For the sake of clarity, TransGrid sought an interpretation of the Commission's Draft Regulatory Principles from TransGrid's legal advisers, and included this in TransGrid's submission to the Commission in relation to TransGrid's Metrogrid project. For the assistance of the Commission and interested parties, the relevant sections of this interpretation are repeated in Attachment 1 to this submission. TransGrid has confidence that the Commission will be able to properly apply the draft Statement of Regulatory Principles in relation to the assessment of the prudence of historic capital expenditure in arriving at its draft determination of TransGrid's revenue needs.

In relation to specific projects, GHD suggest that Molong substation and the Molong/Manildra transmission line may not have been prudent. This is despite TransGrid providing GHD with detailed information addressing their concerns about the load growth in the area and the viability of non-network options. We trust that the Commission will have regard to this additional information in finalising their draft determination, as well as the even more extensive information provided in response to information request ACCC-040326-58-10.

Concerns have been raised about easement costs increasing since the ACCC 1999 Determination. In this regard, there appears to be important omissions from the 1999 Determination. Notably, TransGrid believes that easement transaction costs may not have been included at that time. This was certainly the case in relation to the budgeted easement costs for Kempsey-Nambucca-Coffs Harbour transmission line. TransGrid has also provided information showing very substantial increases in property costs within key NSW regions (for example, mid-north coast of NSW, as per information request response ACCC-040205-43e) since 1999.

In relation to the Optical Fibre Ground Wire (OPGW) projects, GHD state on page 28, *“In conclusion, the need for these communication projects is clear, and information provided by TransGrid proposes a reduction in values of this investment of \$2 million. In absence of understanding the potential for commercial benefit from these assets, GHD is unable to conclude on the prudent value of the regulated asset.”*

TransGrid does not understand why the potential commercial benefits of these assets is a relevant consideration. In TransGrid's view, the \$2 million in question is an optional unregulated investment undertaken to provide a commercial opportunity. This capital is

at risk, and returns on this investment depend entirely on TransGrid's ability to compete in a contestable communication market. The balance of the capital investment in OPGW is required to meet the need for regulated services, as recognised by GHD in their Final Report. Accordingly, apart from the \$ 2 million in question, the balance of TransGrid's expenditure on OPGW projects should be included in the regulated asset base for revenue setting purposes.

3 Inappropriate Comments in Relation to the Sydney CBD Project

We note that GHD admit they have not carried out any in-depth analysis and cannot make any meaningful comments on this project. This is a complex and important project requiring a full assessment of the issues and context before meaningful conclusions can be reached. Accordingly, TransGrid considers any conclusions made by GHD in relation to this project as inappropriate, particularly given the absence of proper context for these remarks, and should be disregarded.

4 Residual Doubts About the Basis for TransGrid's Non-Augmentation Expenditure

In comparison with other NEM transmission providers, TransGrid's past and future requirements for network replacement capital expenditure appears low. This reflects TransGrid's asset management process aimed at replacing assets only when condition dictates or lower cost alternatives are not available. To illustrate this point, the replacement cost of TransGrid's assets is approximately \$5 billion, and the average life of these assets is less than 50 years. This analysis alone implies an average replacement cost per annum of approximately a \$100 million. By any assessment, TransGrid's revenue application implies a spending rate of well under half this amount. TransGrid notes that the GHD final report does not include this kind of indicative analysis. However, TransGrid also notes that the GHD final report concludes that the asset lives used by TransGrid are appropriate.

While benchmarking between TNSPs needs to be undertaken with care, the GHD final report makes no attempt at such an assessment. TransGrid encourages the Commission to undertake such comparisons in arriving at TransGrid's revenue determination.

Clarifying GHD's Analysis

GHD's position in relation to TransGrid's non-augmentation expenditure arises largely due to confusion over expenditure categorisation provided by TransGrid. This seems to have occurred despite very detailed information addressing this issue being provided by TransGrid in response to GHD's draft Report, as well as detailed information on this topic being provided throughout the review in response to specific GHD requests. TransGrid notes that the first formal indication from GHD concerning the format of information provided throughout the review process was provided within the draft Report made available to TransGrid on 19 March 2004.

By way of clarification, the GHD analysis of historic replacement capital expenditure was based on TransGrid's so-called "Treasury Complex" account codes. These codes include replacement and augmentation, as well as some 'support the business' capital within the same aggregated description.

Information was provided in this way as there are well established linkages to TransGrid's audited accounts and routine reporting at an aggregated level to the NSW Treasury. Unfortunately, this format was never intended for the identification of replacement capital expenditure only. In compiling Table 4.6 GHD has correctly noted that some projects are not replacement projects and has partially reflected this in the table.

Responses to information requests throughout the process concerning past capital expenditure were centred on Treasury Complex cost codes. These responses from TransGrid included references to the relevant strategy in the comment column of the tables provided. For the assistance of the Commission, and as previously provided to GHD, TransGrid has recompiled Table 4.6 of the Report (Attachment 2B) to separate replacement capital expenditure from other capital expenditure. This Table relies on the strategy links previously provided to GHD and has split replacement capital expenditure into projects initiated through the asset management strategies (i.e. conceptually linked to the 30-Year planning process) from other replacement capital expenditure expenditures managed through the major capital project development process. The major capital project development process is usually, but not exclusively, applied to augmentation capital expenditure.

The \$ values in the attached Table 4.6 also imply the need for other corrections throughout the GHD Final Report. That is, the Final Report remains in error because it continues to use references to Treasury Complex cost codes. This includes Table 4.7 (refer Attachment 3), which has also been recalculated by TransGrid. The revised Table 4.7 shows that the past replacement capital expenditure relating to asset management strategies is broadly consistent with GHD's simple age-related replacement models and TransGrid's 30 year Plan.

With regard to future replacement capital expenditure GHD has also incorrectly used Treasury Complex cost codes for their assessment. However, TransGrid has its future replacement capital expenditure budget aggregated based on asset management strategies. Clearly, based on the information TransGrid has provided all proposed replacement expenditure is linked to strategies.

Transformer Replacement Expenditure

GHD has made reference throughout the report to abnormal past and future replacement expenditure relating to transformers. In making this assessment GHD has relied on the Treasury Complex expenditure code called Transformer Additions/Replacements. As the name implies, this includes some transformers for network augmentation purposes as well as for replacement requirements.

In addition, GHD has not accepted the principle of budgeting for the replacement of transformers that could be predicted on a statistical basis to fail in service. TransGrid has provided for new transformer purchases at a conservative forecast failure rate based on historic transformer performance. Given that these will be installed to replace generally aged transformers, TransGrid is of the view that it is appropriate to budget for these under replacement capital expenditure.

Major Replacement Projects

Table 4.6 shows explicitly how major replacement capital expenditure projects are accounted for. These include the Sydney West static var compensator and Yass substation replacement. TransGrid has provided both the Commission and GHD with a copy of the Economic Evaluation in relation to the Sydney West static var compensator.

In relation to Yass substation replacement, we note that the GHD Final Report acknowledges the need for this project. In terms of assessing the options for redevelopment of the Yass substation site, these are explained in detail to the Commission and the Commission's advisor, P B Power. In addition, a summary of these discussions has been provided to the Commission explaining the basis for the redevelopment option selected. We note also that GHD did not ask to visit the site as part of GHD's prudence assessment.

TransGrid has supplied the relevant information on the matters raised above in relation replacement capital expenditure but this appears not to have been reflected in the Final Report. This information is again provided for use by the Commission as set out in Attachments 4, 6, and 7.

Accounting for Motor Vehicles

The GHD Final Report proposes that the \$37.4 million expenditure on motor vehicles and mobile plant from 1999 to 2004 be reduced before inclusion in TransGrid's regulated asset base. Two adjustments are proposed as follows:

- a reduction of \$0.9 million to reflect vehicles funded through salary sacrificing arrangements;
- a reduction of \$25 million to reflect proceeds from the re-sale of vehicles.

In relation to this second point, TransGrid, in response to information requests ACCC 040204-42n and ACCC 040212-46b have provided the correct value of sale proceeds over the current reset period. In addition, these sale proceeds have already been included as an offset in the asset roll forward calculation carried out by TransGrid as part of TransGrid's original Revenue Reset Application for the period 2004 to 2009 (please refer to Attachment 8 to TransGrid's Revenue Reset Application).

On page 32 of the GHD Final Report, the increase in motor vehicle and mobile plant costs from \$30.9 million to \$37.4 million is noted. This increase simply reflects market price movements in the cost of motor vehicles and mobile plant since 1999.

5 Basic Errors of Analysis in Relation to TransGrid's Operating Expenditure Needs

GHD's analysis of TransGrid's operating expenditure remains flawed resulting in a proposal for an arbitrary reduction in TransGrid's operating expenditure allowance of more than \$60 million. The key errors include:

- incorrect accounting of TransGrid's outsourcing opportunities in relation to non-core staff;
- misunderstanding of the importance of overtime in delivering transmission service;
- incorrect modelling of the impact of labour market cost movements;

- failure to account for business growth in modelling operating expenditure;
- arbitrary selection of efficiency targets.

Each of these matters is discussed briefly in turn.

Accounting for Outsourcing Opportunities

A simple arithmetic mistake in relation to this matter is placing more than \$20 million of TransGrid's revenue at risk.

The '50 staff surplus to core needs' represent a view by TransGrid that the functions carried out by these staff could be more efficiently outsourced, not that the functions carried out by these staff can be removed. Accordingly, only the difference between these costs and the outsourced alternatives should be included by GHD. This difference would only be a small fraction of the \$3.38 million savings assumed by GHD. Adjustments would also need to be made for severance payments, outsourcing establishment and administration costs, and negative morale associated with forced redundancies if this approach was taken to bring on this restructuring to achieve efficiency gains. Over the period in question, the net savings are unlikely to exceed 20% of this amount proposed by GHD.

Misunderstanding the Role of Overtime

The proposed reduction in overtime expenditure is almost the equivalent of TransGrid's entire overtime budget of \$2.5 million per annum, at a time when TransGrid is required to work more out of normal hours work to minimize transmission outage impacts on the market as well as to ensure reliability of the network service 24 hours a day. GHD have not taken into account the cost impacts to the market and the reduced reliability performance that would result if TransGrid was required to curtail overtime. Indeed, TransGrid is of the view that a case can be made for increasing the historical levels of maintenance over time.

Modelling of Labour Cost Movements

In terms of labour cost movements, GHD have adopted the Revenue Application adjustment for labour costs (based on national labour market price movements) rather than the NSW Electricity industry labour market movements that were used by TransGrid in its supplementary opex forecasts. They have done this without explanation despite the relevant labour market for TransGrid being the NSW ESI. The GHD operating expenditure forecasts should be adjusted to incorporate the latter indices (refer response to information request ACCC 040317-57-1c).

GHD have also failed to adjust TransGrid's outsourcing costs for movements in labour market costs. This is despite acknowledging that outsourcing costs are also linked to labour market movements as shown in TransGrid's response to Information Requests including ACCC-031010-13.

Incorporating Business Growth into Operating Expenditure Modelling

In the text of the Report GHD have acknowledged the link between the growth in asset base and the need for increased operating expenditure, but have not included any allowance in their model for this effect. Put simply, TransGrid is adding over \$2 billion worth of new assets between the 1999 ACCC decision and the end of the 2004 decision

but the impact of the additional servicing requirements of these assets has not been modeled.

Arbitrary Selection of Efficiency Targets

The selection of an efficiency target of 2% per annum is largely unsubstantiated by any analysis. To the extent that comparators are used by GHD in arriving at this target no allowance has been made for differences between the companies being compared. TransGrid is currently increasing its asset base significantly, while it appears that TransEnd and National Grid are not. TransGrid is also coming from initial cost reductions of 25% while the starting point for the other organizations is not explicitly considered by GHD.

Finally, Ofgem's approach to driving the National Grid Company's expenditure allowances down was recently criticized by The House of Commons Trade and Industry Committee enquiring into the "Resilience of the National Electricity Network" as follows:

"Network performance, especially by the transmission companies, is good. However, we consider that the Regulator's concern to reduce cost to consumers should now be tempered by a greater emphasis on ensuring electricity network owners have the financial resources necessary to secure a viable long-term electricity supply."

TransGrid notes that GHD, in using National Grid Company targets as a reference point for their conclusions made no mention of this criticism.

6 Service Standards and Performance Incentives

TransGrid previously participated in extensive consultations with the Commission and their consultant, SKM, on Service Standards and relevant performance incentives. Specifically, detailed statistical analysis was carried out and reviewed at that time in relation to the performance incentives and targets to apply to TransGrid. As a result, TransGrid proposed in its Application the set of criteria that were developed at that time. The set of criteria GHD now propose are inconsistent with that proposal in a number of aspects. Attachment 5 addresses these inconsistencies in detail. Much of the information contained in Attachment 5 has already been provided to ACCC for GHD's attention, but does not appear to have been considered. Where appropriate, further comment is also provided by TransGrid in this Attachment on new issues arising from the GHD Final Report.

TransGrid is of the view that the analysis process carried out by GHD was inferior compared to that conducted by SKM, and that the original proposal for Service Standards in our Application should be endorsed by ACCC in its draft Revenue Determination.

7 Forecast Capital Expenditure

We note that GHD generally confirmed the need and selected options for the majority of projects reviewed. TransGrid has written to the Commission regarding the Commission's intention to introduce new principles for establishing future targets for transmission capital expenditure. TransGrid has asked the Commission for a reasonable period of time to re-submit its application in relation to future capital

expenditure in accordance with these new principles. Accordingly, and in anticipation of a supportive response from the Commission, TransGrid does not intend to comment further on GHD's review of its future capital needs.

8 Other Matters

Paragraph 1 under the heading of Historic Operating Expenditure in the Executive Summary refers to "unregulated" operating expenditure of \$113.8 million. TransGrid assumes that GHD intended to say "regulated" operating expenditure.

In both the body of the report and the Executive Summary, GHD assert that there is potential to reduce costs of project investigation, design, and project management. GHD makes this assertion without any basis in fact or quantification having regard to the specifics of developing transmission projects. GHD admits that this area is difficult to quantify without a detailed review. Therefore these comments are inappropriate and should be disregarded.

On page 5 of the GHD Final Report, GHD say, "*it is not within the scope of this review to identify and quantify the specific efficiency opportunities of TransGrid*". This is inconsistent with GHD's subsequent proposals for building very specific efficiency targets into TransGrid's operating expenditure allowance.

On page 12 of the Report GHD say verbal advice from TransGrid was that the timing of projects was based on what work could be practically achieved and on the management of required outages. This is an incorrect understanding (at best) of the information provided to GHD by TransGrid both formally and informally. Under no circumstances would projects that are required to ensure safety to personnel and the general public, environmental compliance, or system integrity be materially deferred for these reasons.

On Page 31 in relation to Motor Vehicles, GHD state that these are "*disposed of in accordance with Government purchasing rules of a minimum of 40,000 kilometres or two years, whichever is the lesser.*" While TransGrid generally applies the requirements of a NSW public sector to the use of motor vehicles for private purposes, the decisions in relation to managing its vehicle fleet are generally made on a commercial basis.

On page 58 GHD state "*such as the retention of the additional functions and costs associated with informing the single shareholder of any significant issues that may arise with a positive or negative impact.*" TransGrid is unaware of the meaning or intention of this remark.

9 Conclusion

Given the significance of the matters raised in this response to the GHD Final Report to TransGrid's legitimate business requirements, it would be appropriate for these matters to be properly considered by the Commission ahead of the publication of the Commission's draft Revenue Determination for TransGrid.

ATTACHMENT 1 – ASSESSING PRUDENCY OF CAPITAL EXPENDITURE

TransGrid notes that there is currently no clear framework for how the prudence of investments will be assessed by the ACCC, *ex post*. The NEC and the ACCC's current Draft Statement of Regulatory Principles (SORP) do not contain definitions of the term 'prudent investment.'

1. ACCC Statements On Assessing Prudence

The ACCC has stated that TransGrid's current revenue reset application will be assessed in accordance with the SORP.¹

The SORP contains a limited discussion of the assessment of prudence. Proposed Statement S5.1 states that:

'The amount by which the capital base may be increased is the amount of the actual capital cost incurred provided that:

- the amount does not exceed that which would be invested by a prudent TNSP acting efficiently in accordance with good industry practice and to achieve the lowest sustainable cost of delivering the service; and
- one of the following conditions is satisfied:
 - the anticipated incremental revenue generated by the capital expenditure exceeds the investment cost;
 - the TNSP or users satisfy the Commission that the new capital expenditure has system wide benefits that in the Commission's opinion justify its inclusion in the capital base; or
 - the new capital expenditure is necessary to maintain safety, integrity or is approved under the NEC.'

Proposed Statement S5.2 states that:

'In relation to large capital expenditure projects the TNSP must provide sufficient evidence that the provisions of clause 5.6 of the NEC have been complied with prior to undertaking the capital expenditure.'

TransGrid does not believe that the cost estimate used in the regulatory test is an appropriate measure of the prudence of actual investment expenditure. Neither the NEC nor the SORP contain any references to the use of the regulatory test in *ex post* prudence assessments.

The regulatory test as currently structured is a tool for ranking the expected net benefit (or expected net cost) of an investment compared with that of potential alternatives, before that investment proceeds, rather than for determining the prudence of actual investment *ex post*. The ACCC has previously made a clear

¹ ACCC, *Decision – NSW and ACT Transmission Network Revenue Caps, 1990-2003/04*, 25 January 2000, p.74.

distinction between the application of the regulatory test and any prudency test applied to investment *ex post*. In its earlier Decision on TransGrid's revenue cap, the ACCC comments that:

'While it may serve to a network's advantage to ensure that its preferred option has met the approval process set out in Chapter 5 of the NEC, it is not strictly essential to passing the Commission's prudency test.'

This implies that the Commission's prudency test is *separate* from the assessment under the regulatory test.

The recent ACCC Discussion Paper on Regulatory Principles, released in August of this year, contains the following statements:

'At the regulatory reset the Commission will conduct a review on whether the regulatory test application was conducted in accordance with the process and methodology outlined in the regulatory test. In particular it will consider whether the alternatives were justifiably excluded, whether the costing of the alternative projects were in accordance with industry best practice and whether the timing of construction was appropriate.

In its review of a TNSP's expenditure, the Commission would anticipate that the cost at which a project satisfies the regulatory test may differ from the actual construction cost. The Commission is seeking the views of interested parties on the best approach to deal with this issue.

Comments are invited on [...] whether or not the capex amount to be rolled into the asset base should be based on the outcomes of the regulatory test, or based on actual build costs.²

TransGrid notes that the current application of the regulatory test is to *rank* alternative projects. The absolute value of the market cost (or benefit) associated with an augmentation is not relevant. Rather, it is the NPV of the market cost compared with the NPV of the cost of other alternatives which determines whether or not a project satisfies the regulatory test. The fact that the outcome of the regulatory test is a ranking has been explicitly recognised by the ACCC in its consideration of Murraylink's application for regulated status.³

As part of the regulatory test, sensitivity tests are carried out on the value of key inputs (including estimated capital costs) to determine whether the outcome of the regulatory test analysis would change if the value of these variables were different. In the case of TransGrid's application of the regulatory test to the Sydney CBD project, sensitivity tests were carried out on capital costs being 20% or even 40% above the estimate used. The ranking of the alternative projects was found not to be affected by such changes in the cost estimates.

² ACCC Discussion Paper on Regulatory Principles, August 2003, p.37

³ ACCC, Murraylink Transmission Company Application for Conversion and Maximum Allowed Revenue, Preliminary View, 14 May 2003, p.43.

At the time at which the regulatory test is applied, some information in relation to project costings is unlikely to be available. As the ACCC's own consultant (Ewbank Preece) noted:

‘As with any project, we expect that the cost estimates [for the Sydney CBD project] will continue to be refined as more detailed design is undertaken and tender prices are obtained.’⁴

In particular, at the time the regulatory test is applied, the project will not have undergone the community consultation associated with the detailed route selection process, and it is likely that detailed environmental considerations will not yet have been uncovered. It would not be practical, nor prudent, for the TNSP to undertake detailed route selection and environmental consultation processes for *all* potential options, prior to a preferred option being identified. However, if the regulatory process occurs later in the project development, once route selection for a preferred option had been undertaken, then the TNSP would be open to criticism that it is taking the outcome of the regulatory test for granted. A further practical constraint is that TransGrid must have a ‘preferred project’ in order to complete the EIS process.

Even after route selection and completion of the EIS, project costs only become more certain once contracts are let. Even after that stage, latent conditions discovered during construction can still result in changes to the project cost. At all stages, these cost changes are prudent, and do not represent inefficient expenditure.

The regulatory test can pick up the impact of potential cost differences through sensitivity tests. However, the cost estimate used in the regulatory test cannot be expected to represent an exact estimate of efficient costs.

2. Prudency Assessment In Other Jurisdictions

TransGrid notes that IPART, the jurisdictional regulator for the NSW distribution NSPs, conducts a similar process to that undertaken by the Commission to regulate network tariffs, including an examination of past capital expenditure. IPART has provided guidance on its proposed prudency test for capital expenditure at its next regulatory review.⁵ Specifically, IPART states that:

‘Prudency requires that the capital expenditure option and its timing be consistent with good industry practice given:

- current projected capacity
- current conditions of assets and renewal requirements

⁴ Ewbank Preece (1999), p.13.

⁵ Letter from, IPART to the DNSPs, 23 November 2001.

- alternatives for contracting for support through demand management and distributed generation (taking into account emerging trends in technology and costs)
- current safety standards for the distribution network and accepted planning standards
- current and foreseeable policies in regard to factors such as environmental requirements and contestability
- current demand and reasonable projections for demand
- analysis of the risks attached to the above elements.’

TransGrid notes that the Gas Code also contains provisions in respect of the calculation of Reference Tariffs, which in turn are based upon a regulator determined rate of return on a regulated asset base. Section 8.16 of the Gas Code provides that the capital base may be increased by the amount of actual new investment:

‘provided that the amount does not exceed the amount that would be invested by a prudent Service Provider acting efficiently, in accordance with accepted good industry practice, and to achieve the lowest sustainable cost of providing the Services.’

Three distinct Western Australian regulations⁶ in the context of utility regulation contain a definition of a ‘reasonable and prudent person’. All three definitions are broadly consistent, defining a ‘reasonable and prudent person’ as:

‘Reasonable and prudent person means a person acting in good faith with the intention of performing his or her contractual obligations and who in doing so and in the general conduct of his or her undertaking exercises that degree of skill, diligence, prudence and foresight which would reasonably and ordinarily be exercised by a skilled and experienced person complying with recognised standards and applicable laws engaged in the same type of undertaking under the same or similar circumstances and conditions.’⁷

⁶ Dampier to Bunbury Pipeline Regulations 1998; Electricity Referee and Dispute Resolution Regulations 1997; Gas Referee Regulations 1995.

⁷ Dampier to Bunbury Pipeline Regulations 1998.

ATTACHMENT 2A**Table 4.6 Refurb Capex**

Section: 4.4
Page Number: 21

REFERRAL INFORMATION (eg Previous ACCC/GHD Reference Number):

Response GHD 04 0220 107:5.1
Response GHD 04 0220 107:5.2
Response GHD 031204-54
Response GHD-040220-107-4
Response ACCC 031010, faxed 13 October 2003
Response ACCC 040204-42T
Response ACCC 040204-42T

COMMENTS/REASONS FOR THE CHANGE:

The GHD analysis of historic refurbishment capex has been based on “Treasury Complex” account codes. These are general-purpose account codes that accumulate refurbishment and augmentation as well as some ‘support the business’ capex expenditures and are intended for reporting to Treasury. They were never intended for refurbishment capex only. In compiling Table 4.6 GHD has correctly noted that some projects are not refurbishment and reflected this in the table.

In responding to GHD’s questions centred around the treasury complex cost codes TransGrid included references to the relevant strategy in the comment column. TransGrid has recompiled the table to separate refurbishment capex from other capex using the strategy links generally provided and has split refurbishment capex into those initiated through the asset management strategies (i.e. conceptually linked to the 30-Year planning process) from other refurbishment capex expenditures managed through the Project Definition Sheet process, which is more frequently but not exclusively applied to augmentation capex.

The revised table is attached. The \$ values in the table also form the basis of various other corrections to the GHD draft report.

Table 4.6 REFURBISHMENT CAPEX - Historic Summary

		1999/00	2000/01	2001/02	2002/03	2003/04	TOTAL	ACCC
		\$M	\$M	\$M	\$M	\$M	\$M	\$M
Network Refurbishment & Non-Refurbishment								
Refurbishment	Asset Management Strategies							
	- Circuit Breaker/Current Transformers	11.0	7.0	8.1	8.1	8.4	42.6	26.7
	- Substation Projects	7.4	7.3	6.8	10.4	7.2	39.1	40.1
	- Tech Service Projects	1.0	0.7	3.7	3.6	2.6	11.6	4.4
	- Transformer additions & replacements	0.0	0.0	0.0	0.0	4.2	4.2	2.3
	- Transmission Line Projects	0.5	1.2	2.1	2.3	3.0	9.1	1.1
	Asset Management Strategy Subtotal	19.9	16.2	20.7	24.4	25.4	106.6	74.6
	Other Refurbishment							
	- Sydney West SVC			0.2	0.9	23.4	24.5	0.0
	- Transformers - spares				3.9		3.9	0.0
	- Yass 330/132kV Substation		0.1	0.6	7.5	23.6	31.8	0.0
	Other Refurbishment Subtotal	0.0	0.1	0.8	12.3	47.0	60.2	0.0
Refurbishment Subtotal		19.9	16.3	21.5	36.7	72.4	166.8	74.6
Non - Refurbishment	- Armidale - Kempsey restore ratings				0.3	1.1	1.4	0.0
	- Substation Projects	13.4	2.1	4.6	1.9	5.0	27.0	0.0
	- Transformer additions & replacements - engineering			2.7	13.0	14.0	29.7	0.0
	- Transmission Line Projects	1.0	0.0	6.2	0.7	4.7	12.6	0.0
Non - Refurbishment Subtotal		14.4	2.1	13.5	15.9	24.8	70.7	0.0
SUBTOTAL		34.3	18.4	35.0	52.6	97.2	237.5	74.6
Communications Upgrades & Replacement	- Telecommunications Network Extensions			0.1		1.7	1.8	54.9
	- Communications Network Upgrade					0.3	0.3	0.0
	- Northern Microwave Replacement	0.1	7.7	7.7	1.1		16.6	0.0
	- OPGW Backup Northern & Western				0.9		0.9	0.0
	- SCADA Replacement	2.3		2.0	0.6		4.9	11.0
	- Southern Microwave Replacement	7.6	8.0	0.7	0.5		16.8	0.0
	- Western Microwave Replacement	2.7	2.1	0.5			5.3	0.0
SUBTOTAL		12.7	17.8	11.0	3.1	2.0	46.6	65.9
Other Projects	- CAD/DMS Replacement	1.0					1.0	0.0
	- TAMIS System	1.7					1.7	4.5
	- Other Sydney Projects (Upgrade Security)					11.1	11.1	0.0
SUBTOTAL		2.7	0.0	0.0	0.0	11.1	13.8	4.5
TOTAL		49.7	36.2	46.0	55.7	110.3	297.9	145.0

ATTACHMENT 3

Section: Table 4-7

REVISED TABLE

Table 4-7 Overall Review of Substations Refurbishment Expenditure			
	Amount (\$M)	Difference to Historical Actual (\$M)	Basis for Amount
Historic Actual	166.8	-	Aggregating the historic Capex for substation related refurbishment Capex in Table 5-9 indicated a total cost of \$166.8 million (comprising of \$106.6 million in circuit breakers, current transformers, substation projects, transformer additions and replacements and technical services projects plus the Yass substation refurbishment of \$31.8 million, Sydney West SVC project of \$24.5 million and spare transformers for \$3.9 million) excluding significant additional replacement works at substations undertaken as augmentation (e.g. Canberra, Koolkhan).
Network 30 Year Plan	93.3	SVC 24.5 Yass 31.8 Spare Tx 3.9 Other 13.3 Total 73.5	Estimated costs in Network 30 Year Plan of \$82.3M (2000's \$) for substations, protection and metering, plus CPI. The Network 30 Year Plan does not provide for the major refurbishment projects above totaling \$60.2 million.
1999 Allowance	73.5	93.3	1999 ACCC Decision Allowance for substations, protection and metering.
Future RP Proposal	121.1	45.7	Substation and technical services projects (secondary systems).
Age based (1999)	138	28.8	Attachment 8 to the Application shows an opening RAB (ODRC valuation) as at 1 July 1999 of \$462 million for substation assets (excluding Snowy assets) with average remaining life estimated at around 20 years and standard useful life of 40 years. A simplistic analysis of this would give a 1999 replacement cost for these assets of some \$924 million (in 1999 \$'s) with an estimated replacement annuity of around \$23 million or \$116 million over 5 years. Allowing for CPI to the end of the period increased this to some \$138 million over 5 years.
Age based (2004)	167	-0.2	The opening RAB is shown in the Application as \$873 million for substation assets (excluding Snowy assets) with average remaining life of 26 years and standard useful life of 40 years. Calculation gives a current replacement value of approximately \$1343 million (in current \$'s) with an estimated replacement annuity of around \$33 million or \$167 million over 5 years.

REFERRAL INFORMATION (eg Previous ACCC/GHD Reference Number):

Response to GHD Draft Report – Comparison of Past Refurbishment Capex \$ vs. Treasury Complex Codes (TransGrid Reference Number 157)

COMMENTS/REASONS FOR THE CHANGE:

Table updated to reflect true refurbishment expense.

ATTACHMENT 4

Forward Refurbishment Capex

Section: Executive Summary - Business Systems
Efficiency Reference Number: 143

REFERRAL INFORMATION (eg Previous ACCC/GHD Reference Number):

3*70mm A4 folders-namely:

1. Asset management Strategies -Substations-Policy, Budget, Initiatives and Details
 2. Asset management Strategies -Mains-Policy, Budget, Initiatives and Details
 3. Asset management Strategies –Secondary Systems-Policy, Budget, Initiatives and Details
- Response GHD 04 0220 107:5.1
 Response GHD 04 0220 107:5.2
 Response GHD 031204-54
 Response GHD-040220-107-4

Sample documents: Detailed forward regional budgets, Project Scoping Reports for CB and CT replacement programs and related documentation provided to ACCC and PB Power at meeting of 12 Feb 04

COMMENTS/REASONS FOR THE CHANGE:

Introduction

Contrary to the assertion by GHD above, there is a direct relationship between asset management strategies in the documentation provided to GHD and the forward budgets for refurbishments provided in both the TransGrid Application and documentation provided to GHD during their review.

The totals for the period 2004/5 to 2008/9 provided in the submission and supporting strategy documentation supplied to GHD:

Asset Management Strategy class	Asset Management Strategies summarised by Work Stream-Capital Only-see each A4 folder supplied to GHD	Forward Budget-TransGrid's Application to ACCC dated September 2003
Asset Security	\$50,000,000	\$50M
Lines	\$15,388,300	\$15M
Substations	\$108,550,945	\$108M
Technical services	\$12,650,000	\$12M
Total	\$186,539,245	\$186M

Table-Comparison of summated future Asset Management Strategies with Budget

That is, the numerical sum of the individual strategy estimates, rounded down to the nearest \$million equals the Forward Budget request included in the TransGrid Application and provided to ACCC to GHD. The year-by-year comparison previously provided to GHD also matches.

In addition there is a clear relationship between the 2003 application and the 30-Year plan for 2006/10 after allowing for the provision of \$50M for Security initiatives and the provision for spare transformer replacements after transformer in-service failures, both of which are additional to the 30-Year Plan.

30-Year Plan (1999/00 \$'s)	\$106M
Plus adjustment to 2003/4 \$'s, (@2.5%/y)	\$11M
Plus Security initiatives not included in the 30-Year Plan	\$50M
Plus Spare Transformers, not part of scope of 30-Year Plan	\$11M
Total forecast expenditure in 2003/4 \$'s	\$178M
2003/4 Application	\$186M
Difference between 1999 forecast in 30-year Plan for 2006/10 and Application for 2004/9	4.3%

Table-Future Refurbishment Capex forecasts

That is, the difference between the 1999 forecast total refurbishment expenditure in the 30-Year Plan and the Application in 2003/4 is only 5%. Within the 30-Year Plan it has been necessary to re-prioritise the allocation of funds between work streams based on current information but the quantum of expenditure and the thrust of the plan remain largely the same.

Additional Detail

TransGrid has previously provided detailed information on the forward refurbishment capex with individual strategies clearly linked to asset management strategies.

The forward refurbishment capex is generated from a roll up of individual future refurbishment budget provisions. Each provision generally relates to a project such as replacement of a circuit breaker. The exception to this one-to-one relationship relate to work projects in late years of the RP where in a small number of instances a lump sum has been provided to cover emerging asset management issues not yet identified. This last aspect was flagged to ACCC and PB Power on 12 February 2004 in our description of the process (See References for supporting documentation).

Within Tran Grid's Oracle financial system all individual refurbishment capex items managed by Network business unit through the Asset Management process, which has been described previously in detail, are individually tagged with the strategy reference number. Major one off refurbishment projects requiring high levels of resourcing in both the planning and design stages and the construction stages are managed by the augmentation capex investment process (also previously described in presentations on the augmentation capex process) beginning with a Project Definition Report (PDR). An example of the latter is the Yass SS reconstruction; for this GHD has been provided with a Substation Condition Assessment Report produced via the asset management process which initiated the planning and engineering project sheets, specification, tender and contract via the augmentation capex investment process.

Information was provided to GHD at the individual strategy level across all work streams for 6 years for 2003/04 (current year) to 2008/09 for each year and for each strategy. Each of the

annual strategy budget provisions is itself made up of individual projects. Copies of the strategy budgets are again provided with this submission.

It is noted that GHD attempted to compare budget provisions with strategy job counts to calculate unit costs. This process in most cases is seriously flawed as pointed out in our response to GHD information requests GHD 04 0220 107:5.1 and GHD 04 0220 107:5.2. It is acknowledged that this information may not have been taken into account in the report due to timing differences between the preparation of the report and the receipt of this response. In summary the reasons for the flaws in this process include:

- (a) Variances in the work scope due to the range covered by the strategy. Strategies may have to cover a range of voltage and ratings, or a range of possible treatments, with marked differences in cost;
- (b) Variances in the work scope due to the characteristics of the existing installation (eg. Additional civil or electrical design or works may be required);
- (c) Variances in cost due to the location of the work; for example, additional travelling costs and living allowances;
- (d) The replacement profile (i.e. the 'job count') was developed prior the budget, which is itself of course subject to some subsequent adjustment and balancing, and there are minor timing differences from year to year when compared with the budget. Refer also to question GHD-040220-107-4. It also should be noted that emerging strategies are not included in the replacement profile, as the specific types and related strategies may have not been identified. This leads to abnormal unit costs in the analysis particularly in later years.
- (e) Replacement for spare transformers/reactors which will be used for urgent replacement for failed plant is included in the budget, with quantity and timing based on transformer/reactor failure history, using low failure expectations (approximately 0.5%/yr has been allowed in the forward budget), but these are not in the replacement profile, as location and plant type is not known.
- (f) The counts of jobs are a mixture on both operating work and capital work

Response GHD 031204-54 provided a description of the build up of 3 asset management strategies nominated by GHD and included 6 A4 pages of tables linking the nominated strategies to budgets.

The detailed process for estimating and implementing refurbishment projects was explained to ACCC and PB Power. At this time samples of network refurbishment Project Scoping Reports for strategies (samples were for CB and CT replacement for Central Region) were provided. These detailed documents which are essentially project plans for these strategies included detailed cost estimates and risk assessments, as well as significant additional implementing information.

ATTACHMENT 5 – DETAILED COMMENTS ON SERVICE STANDARDS AND PERFORMANCE INCENTIVES

Section: Executive Summary - (Service Standard)

Page Number: vii) – viii)

and

Section 8.1 of report

TransGrid has cooperated with ACCC's appointed consultant SKM in the development of Service Standards. In this process the effort involved has been extensive and the issues have been analysed and discussed in depth. In TransGrid's view the analysis by GHD has been superficial and TransGrid expects that the comments of GHD will be put aside in favour of the outcome of discussions with ACCC's prior consultant SKM.

In respect to the principles expressed by GHD in Section 8.4, page 75 and Section 8.5, page 77 which indicate that incentive structure should be revenue neutral, TransGrid also wishes to direct your attention to the principles outlined by ACCC in "Transmission Network Service provider – Service Standards – Final Report" (March 2003) prepared by SKM. On page 17 in Section 4 – Design Aspects of PI Scheme, Item 4.3 Targets, it states that "... the targets will be nominally set to reflect what is considered to be 'typical' performance, and will generally be *slightly less* than the average value of historical data." It is logically inconsistent to expect to achieve a revenue neutral outcome after applying targets etc that are even only slightly less than the arithmetic average of historical performance. It is also TransGrid's belief that nowhere in any previous negotiations and documentation by ACCC or SKM has the requirement for revenue neutrality been indicated.

TransGrid's performance is generally recognised as being at the high end of industry benchmarking (which GHD acknowledges in the first paragraph of Section 8.4 of their report.) TransGrid's capacity to make further improvements is therefore limited and will be at the cost of additional capital investment and system improvements. The proposal of GHD provides little practical incentive for TransGrid to increase performance while at the same time exposes TransGrid to substantial downside risks.

Section 8.3 – Reliability Measures

This paragraph contains an inappropriate use of statistics which gives an erroneous impression. The phrase "Based upon the historic comparison in the previous tables, TransGrid would have received 72.6% of its bonus for the period through these reliability measures" gives the impression of an unduly large bonus obtained from the two reliability measures, implying that the values of target, cap and collar require adjustment. The statistical error arises from the fact that the contributions of the other four measures are relatively low due to performances more closely approaching the target values, on average, over the 6-year period. The result is that, for a 6-year total bonus of 20% of RAR, 72.6% came from the two reliability measures. This is of no significance whatever. It is equivalent to saying, if by the law of averages, all the other four measures cancelled out with bonuses and penalties over the six years, and the two reliability measures had small bonuses, that "TransGrid would have received 100% of its bonus for the period through these reliability measures." This is obviously a trivial but misleading statement.

TransGrid believes this paragraph should be set aside in its entirety.

Section 8.4 – Suggested performance Incentive Scheme

As indicated in Section 4.3 “Targets” of SKM’s Final report (March 2003) “Transmission Network Service Provider – Service Standards”, the targets will be nominally set to reflect what is considered to be a ‘typical’ performance and will generally be slightly less than the average value of the historical data. This, in conjunction with the “Service Standard Guidelines “ (November 2003) generally supports the performance levels proposed by TransGrid after discussion and agreement with SKM.

The principle of ‘revenue neutrality’, as proposed by GHD, have not been included in any previous ACCC or SKM documents and, in fact, are inconsistent with the Service Standards Final report and Guidelines.

Consequently, GHD’s proposal that the performance levels should be set to achieve revenue neutrality should be set aside and TransGrid’s proposed levels retained.

Section 8.4 – GHD Recommendations to proposed incentive scheme.

Transmission Line Availability

GHD have raised the target from 99.4% to 99.5% with no apparent link to TransGrid’s historical performance. This performance was: 5 year average for 1996/97 – 2000/01 = 99.41%; 6 year average from 1996/97 – 2001/02 = 99.45%. Due to the financial sensitivity to small changes at this high level of performance, it is considered unreasonable to round up by a whole 0.5% to 99.5%.

TransGrid argues that, consistent with the “Transmission Network Service provider – Service Standards – Final Report” (March 2003), Item 4.3 Targets, the target should be lower than the historical performance and set at 99.4%.

GHD have also raised TransGrid’s proposed collar from 98.9% to 99.0%. This is inconsistent with the principle set out in Section 4.5.2 “Asymmetric rewards and penalties” of Statement of principles for the regulation of transmission revenues – Service Standards Guidelines (November 2003), which says: “However, the ACCC recognizes that TNSPs may already be operating at a high-level of performance. For example, most TNSPs in Australia have a circuit availability rate of more than 99 per cent. At this level, for a particular TNSP, improvements of a certain magnitude could be harder than a similar deterioration. Therefore the gradient of the reward would be greater than that of the penalty.” If the target is maintained at 99.4% as argued by TransGrid, the collar should remain at the proposed level of 98.9% to maintain this principle of asymmetry.

Transformer Availability

GHD has raised the value of the collar from TransGrid’s proposed 98.0% to 98.2%. This appears to be linked to the original raising of the target by GHD. If, as TransGrid argues and GHD now proposes, the target should remain at 99.0%, the collar too should remain at its original value of 98.0% to maintain the original degree of asymmetry.

GHD has made a further change, not foreshadowed in its Draft Report, that the Cap be raised from TransGrid’s proposed 99.5% to 99.7%. There is no cogent reason for this and results in an unreasonably large gap between Target and Cap. In addition, it sets the Cap at a level which cannot be achieved when carrying out all policy-mandated maintenance.

Reactive Plant Availability

GHD has raised the Target value without apparent linkage to TransGrid's historical performance as supplied. That performance was: for 5 years from 96/97 - 00/01, average = 98.1%; for 6 years from 1996/97 – 2001/02, average = 98.25%, which TransGrid, in its proposal, conservatively rounded up to 98.5%, thus allowing for a meaningful increase in TransGrid's performance.

As the TransGrid proposed target was already an increase on historical performance, it is considered that GHD's further increase by 0.1% is unjustified and contrary to the "Transmission Network Service provider – Service Standards – Final Report" (March 2003), Item 4.3 Targets.

Reliability (Events >0.05 system minutes)

Whilst the 7-year average used by GHD gives a value closer to 5 (i.e. 5.1), TransGrid used a more relevant longer period (11 years) to derive an average of 5.5. This longer period better relates to the statistical approach of 'extreme values', which is the very basis of this measure. To use a shorter data period tends to invalidate the approach. This must be either rounded up or down to give a whole number of events. TransGrid, clearly would prefer the upward rounding to allow for the long term statistical uncertainties, so the target should remain at 6, with the related cap and collar values also remaining unchanged at 4 and 9 respectively.

Reliability (Events >0.40 system minutes)

The equity of reducing TransGrid's proposed collar from 3 events to 2 is questioned. This leaves a 'sudden death' scenario with TransGrid losing all incentive payment in one event and incurring full penalty with the next. In TransGrid's 11-year data field, for the 6 years where there were non-zero events, the number averaged 1.67 which rounds up to 2. That is, the whole number average for those years when the number of events exceeded the target was 2 and this should not be set as the collar. There is historical evidence of 3 events occurring in the statistical data set and it would be reasonable for this to be set as the collar.

Outage restoration Time (7 day cap per event)

There would appear to be a case of 'cross purposes' with regards this measure, both in the application of a '7 day cap' and the progress in negotiations and documentation of data regarding the '7 day' vs. '14 day' caps.

It is respectfully pointed out that the 'Draft Service Standards Guidelines' contained an error in stipulating a 14 day cap in conjunction with a 1500 minute target when TransGrid's documents with SKM and ACCC clearly indicate the 1500 minute target was calculated using a 7 day cap. This has been commented on in subsequent correspondence from TransGrid.

It is also pointed out that the Guidelines accepted a 7-day cap for another TNSP.

In this context, it is necessary to refer to GHD's comment on Page 73 of the Draft report in which a factual error of interpretation of TransGrid's method of applying the 7-day cap is applied. GHD has subsequently acknowledged (see pp 72 and 74 of Final Report) that the 7-day Cap has been applied correctly and the Target is appropriate.

It is assumed that GHD's amendments to TransGrid's proposed Deadband Knees and Cap and Collar levels are based on this original erroneous assumption. These should revert to TransGrid's proposed values. The reasons for this are given below.

By its nature, this measure is very volatile and a reasonably wide deadband is essential to reduce effect that 'random' events (which do not truly reflect on the network's performance) would have on both incentives and penalties. TransGrid believes that GHD's reduction of the deadband from +/- 300 minutes to +/- 100 minutes is unnecessarily harsh and introduces a random element into the measure. Similarly, it is not equitable for the 'skew' of this measure to be reversed and exaggerated by comparison to the first four measures. GHD's proposed values place the cap (800 minutes) an interval of 600 minutes from the lower deadband knee, while the collar (1800 minutes) is only 200 minutes from the upper deadband knee. There is no evident logic in this proposal which penalises a small increment above the deadband at a rate 3 times the incentive of a similar increment below the deadband and is contrary to the principle set out in Section 4.5.2 "Asymmetric rewards and penalties."

Section 8.4 – Table 8-5

This table summarises the outcomes of all the issues commented in earlier sections of the report.

Corrected values for historical data have been used to calculate the total for bonuses over the six-year period.

The analysis data used for all measures was 1996/97 to 2001/2002 except for the two reliability measures which included 2002/03. The 2002/03 reliability bonus/penalties should not be used in the total sum of all measures for the period.

However, this 6-year outcome quoted value does not define the character of the performance levels of the proposed incentive scheme. Whilst the Availability and Outage Restoration Time measures are based on the average of the 6 years historical performance, the two reliability measures are based on 11 years historical data, so the bonus outcome for the 6-year period contains some statistical aberrations, typical of extreme values statistics. Using the 11 years of reliability data and applying the average of the 11 years of bonus/penalty outcomes, the adjusted total for 1996/97 – 2001/02 would be 1.25% of MAR, or an annual average of 0.21%, not the 1.932% of MAR as indicated by GHD.

Section 8.5 – Performance Incentive Scheme Comparison

This new section included in the Final Report has not been previously commented upon by TransGrid.

For reasons set out in Section 8.4 (Table 8-5) above, a more meaningful analysis of TransGrid's incentive scheme bonus for the 6 year period 1996/97 – 2001/02 would be 1.25% of MAR, or \$M5.06, compared to \$M7.827 calculated by GHD.

In addition, GHD highlights that of their calculated 0.602 performance achievement, 0.600 (that is, 99.7%) resulted from the events > 0.4 system minutes reliability measure. This is an erroneous statistical observation, implying that the measure is unduly biased in TransGrid's favour. This statistical error arises from the fact, similar to that detailed in "8.3 – Reliability measures" above, that the contributions of the other five measures are relatively low due to performances more closely approaching the target values, on

average, over the 6-year period. The result is that, for a 6 year total bonus of 0.6% of MAR, 99.7% came from the >0.4 reliability measure. This is of no significance whatever. It is equivalent to saying, if by the law of averages, all the other five measures cancelled out with bonuses and penalties over the six years (as GHD indicates they did), and the >0.4 reliability measure had a small bonus, that “TransGrid would have received 100% of its bonus for the period through this one reliability measure.” Though correct, this is obviously a trivial but misleading statement.

TransGrid believes that paragraph should be set aside entirely.

With respect to GHD’s final paragraph: “TransGrid has expressed concern that this proposed incentive scheme exposes it to substantial downside risks. However GHD cannot identify these, as the proposed scheme is based on historical performance.” TransGrid’s response is that the down-side risks are associated with GHD’s proposed set of service standards which set targets, caps and collars generally higher than appropriate from TransGrid’s historical performance, contrary to the SKM/ACCC Guidelines which indicate targets should be “lightly lower” than historical averages.

Based on the law of averages, and also expectations of significant capital work programs (with consequent extended outages on lines and plant) affecting Availability measures, and the possibility of random extreme events (as evidenced by TransGrid’s reliability history over 11 years), the stringency of GHD’s set of service standards exposes TransGrid to higher risks than warranted.

Attachment 6

AMS Process

Section: 3.3 Asset Management Strategies
Reference Number: 145

COMMENTS/REASONS FOR THE CHANGE:

Historic Capex Link to 30-Year Plan

The attached tables indicate the relationship between 30-Year Plan, the expenditure 99 RP allowance, TransGrid's expenditure. In summary:

These expenditures excluded those refurbishment projects managed through the major project investment process such as the Yass SS reconstruction and the Sydney West SVC (except \$2.7M allowed in 30 Year Plan and spent on Snn Condensers) that were initiated and progressed through Project Definition Reports rather than through the Asset Management Strategies and the 30 –Year Plan. The 30-Year Plan and the expenditure against Misc Substation Projects included only \$2.7m relating to the replacement of the Syn Condensers/SVC replacement.

The expenditure was above the 1999 Determination. As advised previously the additional expenditure related to strategies, which emerged after the 99 Determination and the preparation of the 30-Year Plan. A substantial list has been previously provided but includes CT replacement programs initiated as a result of type faults with serious OH&S implications and POW CB replacement programs to minimise inrush and restrike reliability issues on reactive plant

Forward Capex link to 30-Year Plan

There is a clear relationship between the 2003 application and the 30-Year plan for 2006/10 after allowing for the provision of \$50M for Security initiatives and the provision for spare transformer replacements after transformer in-service failures, both of which are additional to the 30-Year Plan.

30-Year Plan (1999/00 \$'s)	\$106M
Plus adjustment to 2003/4 \$'s, (@ say 2.5%/y)	\$11M
Plus Security initiatives	\$50M
Plus Spare Transformers	\$11M
Total in 2003/4 \$'s	\$178M
2003/4 Application	\$186M
Difference between 1999 forecast 30-year Plan and Application	4.3%

That is, the difference between the forecast total refurbishment expenditure in 1999/00 by the 30-Year Plan and the Application in 2003/4 is less than 5%. Within the 30-Year Plan it has been necessary to prioritise the allocation of work based on current information.

Additional Detail

GHD's analysis of past refurbishment capex assumes that the treasury complex cost codes

- Transmission Line projects
- Transformer Additions/Replacements
- Misc Substation Projects

relate specifically and exclusively to refurbishment capex. This assumption is incorrect. These cost codes relate to the preparation of annual accounts and reporting to Treasury. They are correctly used within TransGrid to record miscellaneous capital expenditures generally for these investment areas. Network refurbishment budgets for the 99/04 RP were correctly shown against these cost codes but, also correctly, 99/04 expenditures for other purposes were not included at that time. GHD has rightly commented that some expenditures now shown as expenditures against the treasury complex codes were of a network augmentation nature.

GHD has then gone on to compare these gross expenditures against the treasury complex codes with the 30-Year Plan and the Asset Management Strategies. and concluded that there has been a major over- expenditure against 99/04 RP allowances. This is incorrect conclusion.

Attachment 7

Comparison of Past Refurbishment Capex \$ vs. Treasury Complex codes

Section: Executive Summary
Reference Number: 157

COMMENTS/REASONS FOR THE CHANGE:

GHD's analysis of past refurbishment capex assumes that the treasury complex cost codes

- Transmission Line projects
- Transformer Additions/Replacements
- Misc Substation Projects

Relate specifically and exclusively to refurbishment capex. This assumption is incorrect. These cost codes relate to the preparation of annual accounts and reporting to Treasury. They are correctly used within TransGrid to record miscellaneous capital expenditures generally for these investment areas. Network refurbishment budgets for the 99/04 RP were correctly shown against these cost codes but, also correctly, 99/04 expenditures for other purposes were not included at that time. GHD has rightly commented that some expenditures now shown as expenditures against the treasury complex codes were of a network augmentation nature.

TransGrid 30-Year Plan for 2000/2005 (incl \$2.7M for Syn Condenser Replacement)	\$118.5M
99/04 RP TransGrid Asset Management Strategy linked expenditure (incl \$2.7M for Syn Condenser Repl)	\$109.3M
1999 forecasting error: Difference between 1999/00 version of 30-Year Plan and RP expenditure	-9%
1999 Determination Allowance for AMS linked projects	\$74.6M

GHD has then gone on to compare these gross expenditures against the treasury complex codes with the 30-Year Plan and the Asset Management Strategies. and concluded that there has been a major over- expenditure against 99/04 RP allowances. This is incorrect conclusion.

The attached tables indicate the relationship between 30-Year Plan, the expenditure 99 RP allowance, TransGrid's asset management strategy linked expenditure. In summary:

These expenditures excluded those refurbishment projects managed through the major project investment process such as the Yass SS reconstruction and the Sydney West SVC which were provided for financially through Project Definition Reports rather than through the Asset Management Strategies and the 30 –Year Plan.

The additional expenditure as advised previously was related to strategies, which emerged after the 99 Determination and the preparation of the 30-Year Plan. A substantial list has been previously provided but includes CT replacement programs initiated as a result of type faults with serious OH&S implications and POW CB replacement programs to minimise inrush and restrike reliability issues on reactive plant