



strata

**Review of Transpower's
2011/12 Non Part F
Capital Expenditure
Plans (Asset Replacement,
Refurbishment & Enhancement and
Information Services & Technology)**

For: The Commerce Commission

**Final
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REVIEW OF TRANSPOWER NON PART F CAPEX 2011/12

Executive Summary

Purpose

The Commerce Amendment Act 2008 repealed Part 4A of the Act and replaced it with a new Part 4. Under Part 4, the administrative settlement continues to apply until it expires on 30 June 2011. Due to timing issues relating to Transpower's processes for notifying its prices to transmission customers, a transition from the administrative settlement to the individual price quality regulation is needed for the 2011/12 year.

The Commission has determined that, for the 2011/12 year, which is the 1st year of the new regulatory control period, the approach taken for the establishment of appropriate levels of capital expenditure will be very similar to that undertaken under the administrative settlement.

In accordance with the above, the purpose of this Review is to advise the Commerce Commission ("Commission") regarding the appropriateness of Transpower's draft 2011/12 Business Plan ("Business Plan") as a basis for setting a Threshold for that period and to also advise of any adjustments considered necessary.

In undertaking this review and establishing a recommended Threshold the Commission has required an assessment of Transpower's compliance with the terms of the May 2008 Settlement Agreement ("Settlement Agreement") relating to capital expenditure on Replacement, Refurbishment, Enhancement and Development ("RRE"), and Information Services and Technology ("IST").

Due to the timing of Expenditure requiring approval under Part F of the Electricity Governance Rules (EGR) or capital expenditure required for Transpower to perform its obligations under the System Operator Service Provider Agreement with the Electricity Commission is excluded from consideration. Also excluded is capital expenditure undertaken under bilateral agreements (Customer Contracts) between Transpower and its customers.

Transpower's Draft Business Plan

Transpower has provided data extracted from its Business Plan which, at the time provided in March 2010, had not been approved by the Transpower Board. Strata notes that this data relates to a period which does not commence until approximately 15 months after the date it was extracted.

The table below provides data on planned Transpower capex in 2011/12, with data for 2009/10 and 2010/11 provided for comparison.

Transpower Draft Plan Capex 2011/12			
Total (\$ millions)	2011/12	2010/11	2009/10
Total Part F	725	498	351
Total Contract	30	41	33
Commerce Commission Threshold			
- RRE	177	176	104
- IST	49	42	48
- IST Operating Leases	17	28	37
Total Threshold	243	246	189
Total Non Threshold Non Part F	4	6	0
Total Capital Expenditure	1002	791	593

Transpower has proposed total Threshold capex of \$243m, comprised of \$177m of RRE and \$66m of IST expenditure, including \$17m of capitalised IST telecommunication leases. This level of capex is a similar level to 2010/11 and is 29% above the 2009/10 Business Plan.

Summary of Concerns

Strata has completed its review of the data and documentation provided by Transpower. Strata's key concerns relate to Transpower's capacity to implement both the RRE and IST 2011/12 Budgets. The performance against the 2009/10 Budget suggests possible failings in a range of areas including:

- project challenge and planning processes, which should ensure that:
 - budgets are achievable;
 - the necessary resources will be available; and
 - adequate steps are taken to minimise delays due to contractors and internal processes; and
- project management functions, which should perform in delivering projects to budget and on time.

Transpower is forecasting it will exceed the Threshold however we note the capex programme being implemented is substantially different to that budgeted because of unplanned projects and budgeted projects not being progressed as planned. In addition, Transpower has a poor historical record in delivering against budget and the level of capex planned for 2011/12 (and 2010/11) is a significant increase over previous years.

Strata considers discounts to reflect these factors should be applied when setting the Threshold for 2011/12. This is despite the range of significant policy and process improvements made by Transpower during the period since Strata's last review.

Strata's concerns, and the conclusions it has reached on an appropriate threshold, are based on the findings from its analysis:

Performance Review

Transpower's performance has been reviewed using half-year data and forecast year-end data for 2009/10. This review has identified some areas of concern:

- large numbers of budgeted projects have not been progressed as planned. No spend is forecast on projects making up 29% of RRE's Budget and 35% of IST's Budget (excluding TNP leases);
- a very high level of unplanned projects is evident. RRE has 431 unplanned projects in addition to the 530 initially budgeted. IST has 82 unplanned projects in addition to the 99 in the Budget; and

the failure to update RRE's project data records, and the mis-categorisation of the Marsden Redevelopment Stage I project (as requiring EC approval), has resulted in \$21m being omitted from the 2009/10 year Business Plan. Historical performance against Threshold is set out below. Business Plan capex for 2010/11 and 2011/12 are provided for comparison purposes.

Performance Against Threshold - IST & RRE					
\$ millions	2007/08 actual	2008/09 actual	2009/10 forecast	2010/11 business plan	2011/12 business plan
Transpower's Proposal	127	210	210	246	243
Threshold	121	203	189	n/a	n/a
Actual / Forecast / Business Plan	81	109	223	n/a	n/a
Variance from Transpower's Proposal	36.2%	48.1%	-6.2%	n/a	n/a
Variance from Threshold	33.1%	46.3%	-18.0%	n/a	n/a

Forecast performance against the Threshold for 2009/10 is set out below:

Forecast Performance Against Threshold - 2009/10				
\$ millions	FY Forecast	Threshold	Variance (\$)	Forecast as % of Threshold
IST	80.4	84.8	-4.4	94.8%
RRE	142.3	104.3	38.0	136.4%
Total	222.7	189.1	33.6	117.8%

The table shows IST being 5% under the Threshold and RRE exceeding the Threshold by 36%. RRE's performance has been very significantly impacted by \$57m of unplanned projects.

Policy and Process Review

Transpower has made significant progress since the 2009 Review in developing policies, processes and supporting organisational structures which contribute positively to ensuring least-cost capex. In addition to a clear increase in the general level of focus within Transpower on achieving least-cost capex, there have been a number of specific improvements including:

- new project initiation and approval documentation;
- the development by RRE of asset strategy documents;
- the amalgamation of the procurement functions of IST and RRE;
- a broad cost containment and reduction target of 10% set by IST; and
- an increase in programme management resources and the bringing in-house by IST of the Telecommunications and Networking Programme ("TNP") programme management functions.

However, the rollout of the US-Cost costing system appears to have been delayed in respect of non-Part F expenditure, and the anticipated benefits of US-Cost have not been delivered. In addition, RRE has not yet set cost containment and reduction targets.

Proposed Project List

Detailed project data and documentation relating to the proposed list of projects in the Business Plan has been reviewed. Key issues identified were;

- the high number of projects which have not yet been approved (70% of RRE and 97% of IST projects by dollar value);
- the level of rollovers from the 2009/10 financial year into 2010/11 and 2011/12; and
- deficiencies in the checking process undertaken by Transpower to ensure that the improved processes contained in new documentation had been applied to earlier approvals.

May 2008 Settlement Agreement Compliance

Strata has completed a review of the information provided by Transpower that is relevant to assessing Transpower's compliance with its May 2008 Settlement Agreement with the Commission. In Strata's view Transpower is broadly compliant with the Settlement.

Threshold Calculation

The significant proportion of projects which have not been approved adds doubt in relation to the appropriateness of the 2011/12 Business Plan as a basis for calculating a Threshold for that period. Strata has considered the alternative of taking the average actual annual capex over the period from 2006/07 to 2008/09. However circumstances and Transpower's strategies have changed since then in a manner which has tended to increase the required level of capex.

Strata considers the alternative approach of setting the 2011/12 Threshold at the same level as the 2010/11 Threshold is the most appropriate option. Key reasons for this are:

- many aspects of the 2011/12 Business Plan are a continuation of the same activities in key categories of capex as in 2010/11
- the key determinants of capex levels for both years are very similar
- Transpower's 2010/11 Business Plan is best available measure of the required capex because it has been developed at the project and programme level and (unlike the 2011/12 Business Plan) has been subject to Transpower's processes
- the proposed level of capex is almost identical (\$246m in 2010/11 and \$243m in 2011/12).

Strata's recommendation is for the Threshold for the 2011/12 year be established at \$210.3m, which is the same level as recommended for the 2010/12 year.

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Glossary of Terms

AMDB	Asset Management Database
AWP	Asset Works Plan
CES	Cost Estimating System
COBIT	Control Objectives for Information and related Technology
DIB	Draft Investment Brief
EA	Enterprise Architecture
EGR	Electricity Governance Rules
FMIS	Financial Management Information System
GPS	Government Policy Statement
IB	Investment Brief
ICTGB	Information & Communications Technology Governance Board
IST	Information Services and Technology
ISSP	Information Systems Strategic Plan
ITIL	Information Technology Infrastructure Library
KPI	Key Performance Indicator
LCM	Life Cycle Management
MSP	Market Systems Programme
NPV	Net Present Value
ODV	Optimised Deprival Value
PAD	Project Approval Document
PMO	Project Management Office
RRE	Replacement, Refurbishment, Enhancement and Development
RTU	Remote Terminal Unit
SCI	Statement of Corporate Intent
SDLC	Service Delivery Life Cycle
TNSP	Transmission Network Service Provider
TNP	Telecommunications and Networking Programme
TPSLC	Transpower Solution Life Cycle
SCADA EMS	System Supervisory Control & Data Acquisition - Energy Management Systems

1. Introduction and Scope

1.1 Report Purpose

The purpose of this Report is to provide advice to the Commerce Commission (the Commission) regarding whether Transpower's proposed capex provides a reasonable expenditure Threshold to be used for the 2011/12 year. In particular this Report seeks to advise the Commission on the following:

- whether Transpower has for the 2011/12 year properly applied appropriate policies and processes leading to the preparation of the draft Business Plan ("Project List");
- the appropriateness of the use of Transpower's Project List for the 2011/12 year as an expenditure Threshold for capital expenditure;
- whether:
 - the levels of contingency included in the project budgets have been established so that they are no more than 7.5% for Information Services and Technology ("IST") and 0% for replacement, refurbishment, minor development and enhancement ("RRE") expenditure;
 - the expenditure forecasts have been prepared in accordance with Transpower's capital works and IST planning processes and policies;
 - Transpower's processes have considered and targeted appropriate least-cost, efficient interventions; and
 - Transpower has proactively pursued and implemented process improvements; and
 - the implications for both the Draft Project List and Threshold for the 2011/12 financial year arising from any variations between actual expenditure to 31 December 2009 and the Threshold for 2009/10 year.

1.2 Background

On 13 May 2008, the Commission accepted an administrative settlement from Transpower in respect of breaches of the thresholds set under Part 4A of the Act. Strata has performed a review of

Transpower's RRE and IST capital expenditure for compliance with the terms of the administrative settlement over the past three years and provided a Report to the Commission each year. A review of the Transpower's proposed capital expenditure for 2010/11 has recently been completed.

The Commerce Amendment Act 2008 repealed Part 4A of the Act and replaced it with a new Part 4. Under Part 4, the administrative settlement continues to apply until it expires on 30 June 2011. The Commission has recommended to the Minister of Commerce (the Minister)¹ that individual price quality regulation be applied to Transpower for regulatory control periods following the expiry of the settlement.

The material provisions that will apply to Transpower under the Commission's s 52P determination, will include that Transpower will be subject to:

- a price path, set using a full building blocks analysis, with individual elements of the building blocks underpinned by both the applicable input methodologies and the Transpower specific s 52P determination;
- quality standards; and
- an incentive mechanism placing a portion of revenue 'at risk' to discourage deteriorating quality performance.

Due to the timing of the Commission's final input methodology and s 52P determinations, and the internal processes Transpower is required to complete prior to notifying its customers of prices, there is insufficient time to complete a full 4 year expenditure review. To address this issue the 2011/12 year is considered to be a transition period from the administrative settlement to the individual price quality regulation.

On the 2nd and 3rd March 2010 the Commission held an Electricity Transmission Workshop at which there was broad agreement that the transition period would include a review and establishment of a Threshold consistent with the approach taken under the Settlement Agreement. The Commission has stated that it considers that this approach will give Transpower sufficient time to calculate and announce prices.

In accordance with the approach set out above this Review considers non-Part F capital expenditure under two general categories, broadly defined as:

¹ Recommendation to the Minister of Commerce regarding the type of regulation to apply to Transpower 14 April 2010 <http://www.comcom.govt.nz/electricity-media-releases/detail/2010/commerce-commission-recommends-type-of-regulation-to-apply-to-transpower>

RRE Capital expenditure which replaces or refurbishes National Grid ("Grid") assets, or enhances them, provided the individual project costs or programme costs do not exceed \$1.5m and \$5.0m respectively.

IST Capital expenditure on the upgrade or replacement of:

- telecommunications network;
- SCADA EMS (including devices which provide data to SCADA); and
- network systems;

where these are used in operating or supporting the operation of the Grid. Also included are capitalised TNP operating leases.

These capex categories are defined more fully at Appendices I and II, attached at the end of this Report.

The Project List of non-Part F capex submitted by Transpower for 2011/12 is comprised of projects totalling \$243m. To provide the context for this, the table below sets out Transpower's Business Plan capex for 2010/11 and 2011/12 for all categories of capital expenditure, including Part F. Budget figures are shown for 2009/10. This indicates that both Threshold and Part F capex are forecast to increase significantly in 2010/11 and 2011/12 compared with 2009/10.

Transpower Draft Plan Capex 2011/12			
Total (\$ millions)	2011/12	2010/11	2009/10
Total Part F	725	498	351
Total Contract	30	41	33
Commerce Commission Threshold			
- RRE	177	176	104
- IST	49	42	48
- IST Operating Leases	17	28	37
Total Threshold	243	246	189
Total Non Threshold Non Part F	4	6	0
Total Capital Expenditure	1002	791	593

The table below provides a summary of Transpower's recent performance against Threshold and the non Part F capex components of the Business Plans for 2010/11 and 2011/12.

Performance Against Threshold - IST & RRE					
\$ millions	2007/08 actual	2008/09 actual	2009/10 forecast	2010/11 business plan	2011/12 business plan
Transpower's Proposal	127	210	210	246	243
Threshold	121	203	189	n/a	n/a
Actual / Forecast / Business Plan	81	109	223	n/a	n/a
Variance from Transpower's Proposal	36.2%	48.1%	-6.2%	n/a	n/a
Variance from Threshold	33.1%	46.3%	-18.0%	n/a	n/a

2. Review Approach

2.1 'Top Down' Approach

Consistent with the approach taken under the Settlement Agreement a 'top down' approach has been adopted. This approach assumes that if:

- Transpower's policies and processes are effective in delivering technically appropriate capital expenditure projects at least cost;
- these processes are properly applied; and
- Transpower has the capability to implement the capex programme;

then the output draft Project List will provide a sound basis for establishing a Threshold for the year under consideration.

The alternative approach would be to conduct a detailed technical examination of a sample of individual projects to establish whether, in those particular instances, the capital expenditure was reasonable or not. These findings would then be extrapolated to provide a view on the reasonableness of the draft Project List. The advantage of the top-down approach is that it avoids the need to undertake highly detailed technical and economic reviews of a large number of individual projects.

2.2 Least Cost Objective

2.2.1 Government Policy Statement

A key focus of this Review is on assessing the extent to which Transpower is currently achieving (or could achieve) least-cost capex. The term 'least-cost' is derived from a succession of Government Policy Statements, including the May 2009 Government Policy Statement on Electricity Governance (GPS). This provides (at paragraph 83) that among the objectives for the provision of transmission services:

"the efficiency of transmission services should be continuously improved so as to produce the services grid users and consumers want at least cost".

2.2.2 Transpower Statement of Corporate Intent

Government policy established for the electricity industry provides a framework which flows through to Transpower's high level policy documents.

Transpower's 2009/10 Statement of Corporate Intent (SCI), which sets out Transpower's overall intentions for the 2009/10 year and succeeding financial years, includes objectives to:

- promote efficient investment in the Grid to provide the platform for a competitive wholesale market, thus enabling options for investment in generation and demand-side management;
- seek to efficiently recover the full costs of its services;
- improve the efficiency of its services, whilst optimising asset reliability and availability;
- be as profitable and efficient as comparable businesses not owned by the Crown; and
- provide transmission services at the standard of quality and security agreed with Grid users or required by regulatory agencies.

Together the GPS and Transpower's SCI provide clear direction for Transpower management to provide transmission services at least cost.

Least-cost is used in a broad sense, taking into consideration the whole-of-life costs and the other objectives set out in the GPS. These objectives include grid reliability, security, diversity of supply to larger load centres and the facilitation of competition.

2.2.3 Achieving Least-Cost Capex

Key factors in achieving least-cost capex are considered to be:

- accurate and complete asset condition monitoring and assessment processes;
- effective options analysis, a key facet of which is the cost-benefit analysis;
- accurate costing methodologies;
- effective challenge processes;
- effective procurement processes; and
- targeted capex cost reduction / containment.

The Review process has focussed on:

- the adequacy of Transpower's policies and processes in achieving least-cost capex;
- improvements made by Transpower since the previous Review to policies and procedures impacting on capital expenditure management;
- the extent to which issues identified in the previous Review have been addressed;
- the extent to which efficiency gains arising from changes to policies and processes have been reflected in the Project Lists (and therefore are factored into the calculation of Thresholds);
- determining whether the policies and processes have been appropriately and effectively applied to the projects. This includes sample testing of adherence to these policies and processes through examining business cases and other project documentation for:
 - all Major Projects (\$1.0m and above)
 - a sample selection of Minor Projects (less than \$1.0m);
- the relevant requirements of the Settlement Agreement;
- historical and future non-Part F capex trends;
- the reasonableness of the underlying assumptions behind the draft Project List; and
- any areas in which Transpower is considered to be non-compliant with the terms of the Settlement Agreement.

2.3 Information Basis

Strata's analysis is based on data and documentation provided by Transpower and on discussions with Transpower management and staff. This includes provision by Transpower of detailed updates of the policies and processes in effect, and a description of the changes made since the previous Review.

2.4 Report Structure

As a consequence of the 2011/12 Business Plan review being prepared concurrently with the 2010/11 Business Plan review the following key areas of analysis are common to both:

- **Current year performance** - year-to-date (YTD) and forecast full year (FY) capex in the current 2009/10 financial year. The

key focus is on how well Transpower is currently managing its capex and achieving least-cost capex; and

- **Policy and processes** - current policies and processes which impact on non-Part F capex are reviewed. This section assesses the appropriateness of Transpower's policy and process framework, particularly in achieving least-cost capex.

These sections are identical to the equivalent sections in the 2010/11 Review and therefore, have not been repeated in this Report.

RRE and IST non-Part F capex are separately considered in detail in the sections immediately below. In particular Transpower's proposed project list in the Business Plan for 2011/12 non-Part F capex is reviewed. The key focus is on whether the policies and processes have been fully applied to the projects in the Project List. Where deficiencies are identified, adjustments are proposed to the level of capex in Transpower's non-Part F Project List for the 2011/12 financial year.

Subsequent sections then set out:

- an assessment of compliance with the Commission's draft determinations;
- overall conclusions reached; and
- a recommended non-Part F Threshold for the 2011/12 year.

3. Replacement, Refurbishment and Enhancement Capital Expenditure

3.1 RRE 2009/10 Performance Review

The review of Transpower's RRE 2009/10 performance is relevant to the review of Transpower's proposed 2011/12 non Part F capital expenditure because it is the latest year for which data on actual performance is available at the time of writing.

Strata's report on Transpower's proposed 2010/11 non Part F capital expenditure should be referred to for information on this area of the review.

3.2 RRE Policy & Process Review

3.2.1 Policy & Process Changes

The review of Transpower's policies and processes conducted by Strata in January to March 2010 is relevant to the review of Transpower's proposed 2011/12 non Part F capital expenditure because this is the latest available documentation.

Strata's report on Transpower's proposed 2010/11 non Part F capital expenditure should be referred to for information on this area of the review.

3.3 RRE 2011/12 Proposed Project List

3.3.1 Information Basis

3.3.2 Transpower has provided a Project List for the 2011/12 year as at 26 March 2010. This has not been signed off by the Transpower Board and not all projects have been given formal approval. However all projects have been subject to review and challenge, including the detailed CEO Review. However the depth of the review and challenge process is limited by the extent to which projects have been progressed. This process would be more limited where projects were not approved because detailed investigation had not been completed.Project List Analysis

RRE Threshold Projects 2011/12 Asset Category Split		
Asset Category	Project Value	Number
Substation		
Transformers	24,334,800	37
ACS Outdoor to Indoor Conversion	22,389,451	14
Protection	7,562,948	63
ACS Circuit Breakers	10,673,226	25
SA Metering	9,032,647	1
Other	13,142,605	93
Total Substation	87,135,677	233
Transmission		
Tower Painting	23,722,548	40
Grillage & Foundations	15,342,891	43
TL Insulators	3,931,138	46
TL Structures	7,788,403	52
TL Conductors	20,773,351	20
Total Transmission	71,558,330	201
HVDC		
HVDC	18,333,499	10
Total 2011/12 RRE Capex	177,027,507	444

Transpower's proposed RRE Project List is summarised above. The list is made up of 444 projects with a total spend in 2011/12 of \$177.0m. The table below shows the split by key asset categories and includes: Transformers (\$24.3m), Tower Painting (\$23.7m), Conductors (20.8m), HVDC (\$18.3m), ACS Outdoor to Indoor Conversion (22.4m) and Grillage & Foundations (\$15.3m).

Capacity to Implement Increased Capex Level

GRID - Business Plan & Actual		
\$ millions		
Financial Year ended	Business Plan	Actual / Forecast
June 2007	57.4	50.7
June 2008	56.3	50.1
June 2009	97.7	67.0
June 2010	104.3	142.3
June 2011	176.3	n/a
June 2012	177.0	n/a

The above table shows the significant forecast level of growth in RRE capex over the next 2 years. This is primarily the result of a major effort by Transpower over the past year in developing asset management strategies for key asset categories. These strategies are considered by Strata to be appropriately focused on achieving the least-cost outcomes.

Given this focus, it may surprise that a number of strategic analyses have determined the most cost-effective approach to achieving Transpower's Grid performance objectives actually requires a significant increase in the level of capex. There are two key reasons for this:

- in some instances Transpower's view of the level of acceptable risk has changed, or the asset condition has declined (or a combination of both) so that increased spend is required. An example is the increased spend on transformers following the decision to replace all remaining single phase transformers over the next 20 years; and
- Transpower's previous strategy has been determined not to be the most cost-effective on a whole-of-life basis. Tower painting is a good example. This is forecast to reach \$14.8m in the 2009/10 year, but is then planned to increase to \$19.6m in 2010/11 and \$23.7m in 2011/12.

Provided the cost/benefit analysis has been appropriately conducted, and Strata has no reason to question this, Strata takes no issue with the fact that this increase has occurred.

However, Strata does have a concern when considering whether the Project List is an appropriate basis for the calculation of a Threshold.

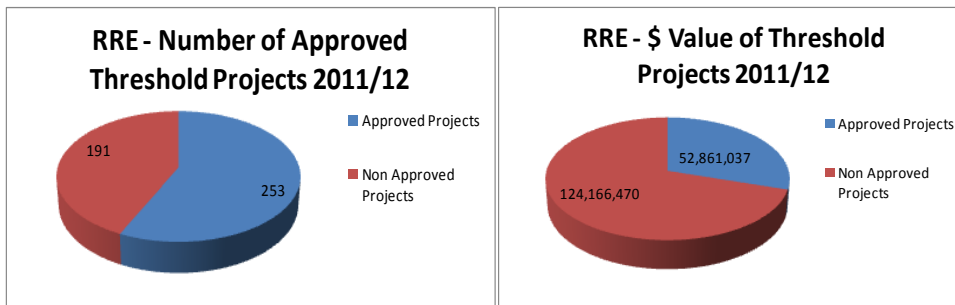
This concern is not whether the increase in capex is necessary, but whether Transpower has the capacity to achieve it. This is despite the forecast outturn for 2009/10 of \$142.3m (as at January 2010) being 36% above the Business Plan of \$104.3m and the year-to-date actual.

Strata’s concern is based in part on Transpower’s under-performance over the past 3 financial years, including reaching just 69% of Budget in 2008/09. Other factors are considered further below.

While Transpower is confident it will exceed the Threshold by a significant margin, Strata’s view is that caution is required in using Transpower’s forecast year-end position for 2009/10 as a benchmark against which to assess the capacity to achieve significantly higher levels of capex in 2010/11 and 2011/12. If we look for other reference points, the last available actual year-end figure was \$67.0m in 2008/09. The Project List figure of \$177.0m for 2010/11 represents an increase of 164% on that figure.

Approvals

RRE Threshold Projects - 2011/12		
		% of Total
Approved Threshold Projects		
- number of projects	253	56.9%
- total spend in year	52,861,037	29.9%
Non Approved Threshold Projects		
- number of projects	191	43.1%
- total spend in year	124,166,470	70.1%
Total Threshold Projects		
- number of projects	444	
- total spend in year	177,027,507	



The extent to which projects have been subject to all of Transpower’s applicable processes is also a key area of focus. The table and graphs above indicate that the level of approvals for projects in 2011/12 is just 30% by dollar value (72% for 2010/11) and 57% by number of projects (75% for 2010/11).

RRE has previously indicated a target level of 80% approval by the time the year commences in July, but in this case the start of the year is approximately 15 months hence. The level of approvals is therefore understandably lower. However the approval level of just 30% (by value) for 2011/12 does raise concerns regarding the appropriateness of the Business Plan for 2011/12 as a basis for establishing a Threshold for that year.

We note that a number of projects were approved using the Project Approval Document (PAD), which did not have a number of features present in the Business Case document that is now used for approvals. This contains an explicit focus on least-cost and the procurement strategy. RRE has reviewed 138 PADs with the purpose of ensuring the improvements in the Business Case document have been complied with. However there are a further 28 PAD's which have not been reviewed.

Rollovers

RRE - Rollovers from 2009/10	
2009/10 Budget	14,468,310
rolled into:	
2010/11 Plan	21,336,336
2011/12 Plan	898,080
Total	22,234,416

A total of \$14.5m of projects budgeted in 2009/10 have been rolled forward into subsequent years. The forecast spend on the projects has increased, the majority of which has rolled into 2010/11 is \$21.3m, with \$0.9m rolling into 2011/12.

3.3.3 Documentation Review

Major Projects >\$1.0m

As would be expected, there are a relatively small number of very large projects in the Project List for 2011/12.

RRE Major Projects	
Project Size	2011/12
\$1.0m - \$1.5m	12
\$1.5m - \$5.0m	9
\$5.0m - \$10.0m	5
>\$10.0m	2
Total	28

Transpower has provided Strata with documentation for the 10 largest projects and a small number of other projects selected by Strata.

The new Business Case document format, where used in the projects reviewed, appears to be being used very effectively. It places the focus very centrally on:

- achieving least-cost (in the context of meeting the Grid performance objectives);
- options analysis;
- the development of procurement strategies; and
- timing and availability of resources.

The PAD documents were a little more variable but, as discussed above, Transpower has audited 138 PADs to confirm that key aspects explicitly dealt with in the new Business Case format have been addressed. However as noted there are a further 28 PAD documents which have not been reviewed.

Transpower's audit of the PAD documents checked for factors such as options analysis, the loading of data into AMDB, ensuring that cost estimates sources are defined, the cost/benefit analysis is clearly set out and whether there is a clear statement as to why the option proposed represents the least-cost 'whole-of-life' solution. Strata has reviewed the PAD Audit documents and found them generally to be satisfactory.

Minor Projects <\$1.0m

RRE Minor Projects	
Project Size	2011/12
\$0- \$0.5m	376
\$0.5m – \$1.0m	40
Total	416

The table above shows the majority of projects are relatively small. Strata considers the level of analysis should be commensurate with the size of the project, however it is important, because of the sheer number of smaller projects, that the key elements of policies and processes are properly applied. The approach of having mandatory fields in approval documents is considered to be a good means of ensuring this.

Nothing in the material Strata has reviewed raises any particular concerns regarding Minor Projects.

Note that the specific questions addressed by Strata in reviewing the documentation, together with Strata's findings, are attached at Appendix V – Project List Assessment.

3.4 RRE - Conclusions and Proposed Adjustments

3.4.1 Conclusions

Strata's key concerns in relation to RRE capital expenditure are:

- The efficacy of Transpower's planning and challenge processes as applied in developing an achievable capex programme;
- The accuracy of the draft Business Plan
- RRE's capacity to fully implement a capex programme substantially as planned; and
- The appropriateness of the proposed Project List as a basis for establishing a Threshold.

The concerns are based on Strata's key findings in each of the following areas:

Current Year and Historical Performance (see Appendix III)

- **High level of unplanned projects** – there are 431 unplanned projects totalling \$57m compared with the Budget of 530 projects totalling \$104.3m.
- **High number of budgeted projects which have not been progressed** – 212 out of 530 projects in the Budget are forecast to have no spend in 2009/10. These projects represent \$33.7m (32%) of the Budget of \$104.3m
- **History of under-performance against budget** over the preceding 3 years.
- **Project data records not kept up to date** so that a minimum of \$21.6m (and up to \$27.9m) were omitted from the 2009/10 Budget.
- **Delayed rollout of US Cost costing system.**

Policy and Process Review (see AppendixIV)

- **No comprehensive targets set for cost containment or reduction.**
- **Project deferral process is not sufficiently robust.**
- **Asset Management Framework could be improved** – asset management, including achieving least-cost capex, could be further reinforced with the introduction of a recognised asset management framework such as PAS 55.

Project List Review

- **Significant increase in planned capex** – planned capex of \$177.0m in 2011/12 (and \$176.3m in 2010/11) represents a very significant increase on the Budget of \$104.3m in 2009/10 and the Actual outturn in previous years (e.g. the last Actual year-end figure was just \$67m in 2008/09)
- **Low levels of project approvals** – only 30% (by value) of RRE projects for 2011/12 had been approved as at 26 March 2010.

There have however been a number of significant improvements to RRE policy and processes, notably:

- New project initiation and approval documentation, which puts a very clear focus on factors critical to achieving least-cost capex;
- The development of a clear set of asset strategy documents, which provide a good platform from which to progress specific projects on a least-cost basis; and
- The amalgamation of the procurement functions of IST and RRE.

Also it is acknowledged Transpower exceeded the YTD Budget at the half year and it now forecasts a year-end position of \$145.0, which is significantly above the Threshold. However it is noted that, even if the level of capex is higher than planned, the actual programme now being implemented is substantially different from that which was budgeted.

3.4.2 Adjustment Options

The review of Transpower's current year performance and its policies and processes is undertaken to provide information relevant to the assessment and adjustment of the 2011/12 Business Plan for use as a Threshold. Two options for adjustments are discussed below.

Option 1 Historical level Threshold

The use of Transpower's Business Plan as the basis for a Threshold relies on the Business Plan being an accurate representation of the levels of expenditure required to maintain asset performance. Given Strata's concerns regarding the accuracy of the Business Plan and Transpower's capability to implement it in practice, consideration of an alternative to the Business Plan as the basis for setting a Threshold is considered appropriate.

One option is to set the Threshold at historical actual RRE expenditure levels. A three year average could be used to provide some levelling of major one-off projects that may have occurred in a single year. If a

large project or programme is planned for the regulatory period is likely to cause Transpower to breach a Threshold based on historical actual expenditure, consideration could be given to include the individual project in the Threshold.

A Threshold for 2011/12 based on historical three year average RRE actual expenditure would be:

RRE Actual Annual Capex \$millions	
Financial Year	Full Year Actual Expenditure
2006/07	57.4
2007/08	56.3
2008/09	67.0
Three year average	60.2

On the basis above, the 2011/12 Business Plan RRE expenditure component of \$177.0m would be adjusted downwards to \$60.2 million.

Option 2 Adjustment to Proposed Project List

The second option is a continuation of the approach previously taken of using Transpower's proposed list and adjusting it, based on the analysis of:

- historical performance data;
- current year data and forecasts;
- project documentation for current year and forecast year(s) projects;
- policy and process documentation; and
- proposed project lists for the year for which an allowance is to be established.

This analysis takes into account a range of factors including the adequacy of the policy and processes, procurement methodologies, a focus on least-cost, challenge processes, capacity to implement capex, options analysis, costing methodologies and the level of approvals. The amount of the allowance would vary significantly depending on the particular adjustments proposed.

Recommendation

There are a number of factors to consider when evaluating these two options for the setting of a Threshold for 2011/12:

- the historical cost average approach is a simple methodology to apply and is based on actual performance by Transpower;
- some base data for the historical cost average approach will be as much as 5 years old by the time the Threshold applies;
- a \$60.2m Threshold set on the basis of a historical average falls very significantly below the 2011/12 RRE Business Plan expenditure of \$177.0m which Transpower considers to be required to appropriately manage the transmission assets;
- the low level of approvals means a significant proportion of the Business Plan for 2011/12 has not been fully subject to Transpower's processes;
- Transpower has developed and implemented new, revised and improved asset management policies and strategies which, in Strata's opinion represent good practice and will, if applied appropriately, result in efficient asset management planning; and
- implementation of the revised asset management strategies in 2010/11 and 2011/12 will lead to material increases in the levels of RRE expenditure for key asset classes. In particular, tower painting and the transformer replacement programmes are expected to raise expenditure above historical levels.

On balance Strata's view is that it is more appropriate to use a current assessment of the required capex as the basis for the calculation of the Threshold. However a concern remains regarding the very low-level of project approvals in the 2011/12 Business Plan and the likelihood that components of it will change between now and July 2011.

However Strata's notes that many aspects of the 2011/12 Business Plan are a continuation of key categories of capex in the 2010/11 Business Plan e.g. tower painting, grillage refurbishment, single-phase transformer replacement, circuit breakers, reconductoring, etc. Also the level of capex is almost identical (\$176.3m in 2010/11 and \$177.0m in 2011/12).

Given the extent of the similarities between the Business Plans for each year and the absence of a better alternative, Strata recommends the Commission applies the same Threshold as is established for the 2010/11 year, to the 2011/12 year.

3.4.3 Proposed Adjustments

As discussed above Strata proposes applying the same Threshold to the 2011/12 year as is calculated for the 2010/11 year.

4. Information Systems and Technology Capital Expenditure

4.1 IST 2009/10 Performance Review

The review of Transpower's IST 2009/10 performance is relevant to the review of Transpower's proposed 2011/12 non Part F capital expenditure because it is the latest year for which data on actual performance is available at the time of writing.

Strata's report on Transpower's proposed 2010/11 non Part F capital expenditure should be referred to for information on this area of the review.

4.2 IST Policy & Process Review

The review of Transpower's policies and processes conducted by Strata in January to March 2010 is relevant to the review of Transpower's proposed 2011/12 non Part F capital expenditure because this is the latest available documentation.

Strata's report on Transpower's proposed 2010/11 non Part F capital expenditure should be referred to for information on this area of the review.

4.3 IST 2011/12 Proposed Project List

4.3.1 Information Basis

Transpower has provided a Project List for the 2011/12 year, based on the position as at 26 March 2010. This has not been signed off by Transpower's Board and not all projects have been given formal approval. However all projects have been subject to review and challenge, including the detailed CEO Review. However the depth of the review and challenge process is limited by the extent to which projects have been progressed. This process would be more limited where projects were not approved because detailed investigation had not been completed.

4.3.2 Project List Analysis

Proposed IST Threshold Projects 2011/12

IST Threshold Projects 2011/12 - incl IST Operating Leases		
Spend Category	Project Value	Number
Telecommunications and Network Programme		
Network Connections	15,652,107	9
Inner Core	6,174,745	2
Other	10,325,741	7
Total Telecommunications and Network Programme	32,152,593	18
Capitalised Operating Leases	17,177,935	4
T&N Tactical Programme	263,123	1
Market Systems and Transmission Applications	9,633,966	10
Information Services and Business Applications	6,562,694	8
Total 2011/12 IST Capex	65,790,311	41

The table above sets out the IST Business Plan which is comprised of 41 projects with a total spend in 2011/12 of \$65.8m. It reflects the predominance of TNP and the associated operating leases in IST's capex planning.

Capacity to Implement Capex Budget

IST - Historical and Forecast Full Year Data (excl TNP Leases)		
Financial Year ended	Business Plan	Actual / Forecast
June 2007	29.5	19.6
June 2008	32.3	31.2
June 2009	66.2	30.8
June 2010	47.6	45.3
June 2011	41.7	n/a
June 2012	48.6	n/a

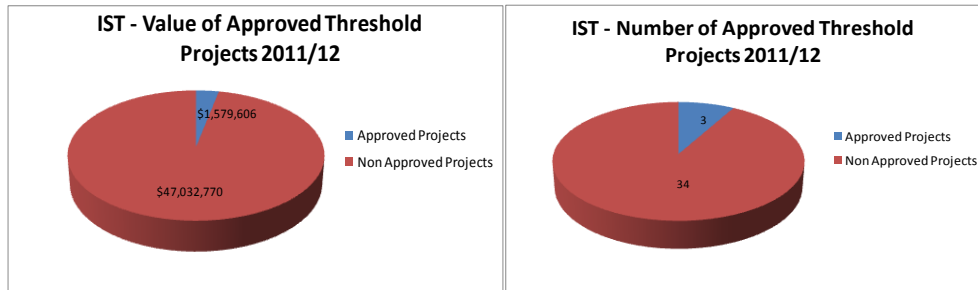
Strata remains concerned about IST's capacity to implement the planned spend in 2011/12. In the period 2006/07 to 2008/09 the actual outturn (excluding TNP leases) for the year averaged 64% of Business Plan, and in FY2009 was just 47%.

Transpower's forecast in January 2010 was to be at 95% of Budget in the year to June 2010. However the April reforecast year-end position of \$35.1m (against the Budget of \$47.6m) indicates slippage against this forecast. Also for the 6 months to Dec 2009 the actual was just 42% of the year-to-date Budget.

During the course of the current year IST extended TNP from 5 to 6 years and increased the resourcing of project delivery. Despite this Strata is of the view that a discount to reflect the probability of underspend in 2011/12 is appropriate given previous under-performance in project implementation over the past 4 years. However the level of discount should take into account the TNP extension and increased project management resources.

Approvals

IST Threshold Projects - 2011/12 (excl TNP Leases)		
		% of Total
Approved Threshold Projects		
- number of projects	3	8.1%
- total spend in year	1,579,606	3.2%
Non Approved Threshold Projects		
- number of projects	34	91.9%
- total spend in year	47,032,770	96.8%
Total Threshold Projects		
- number of projects	37	
- total spend in year	48,612,376	



The extent to which projects have been subject to all Transpower's applicable processes is a key area of focus. The table and graphs above indicate that (by dollar value) 97% of 2011/12 projects were not approved as at 26 March 2010.

Strata notes that, as part of the changes to the SDLC/Project Management Framework, each project in the IST Business Plan requires an Investment Brief which sets out the forecast spend and the justification for doing so, including a least-cost analysis.

However, IST has taken the approach that, as the change only took place in October 2009, the full Investment Briefs will be temporarily replaced by Draft Investment Briefs (DIBs). While the DIBs contain much the same information as the Investment Briefs, Transpower has acknowledged they do not have the same level of rigour. Despite this, IST expects that they will have the same level of accuracy (+/- 20%) as a full Investment Brief. How the same level of accuracy can be expected with a lesser degree of rigour is not clear.

IST has advised that each project is backed by a signed DIB or, in the case of rollover projects a business case, along with a commitment from the business and IST that these investments can be adequately resourced. Any unsigned or unsupported DIBs have been excluded from the plan.

Out of 37 projects (excluding TNP leases):

- 3 are approved;
- 2 have a Business Case;
- 1 has an Investment Brief; and
- 31 have a Draft Investment Brief.

Rollovers

IST - Rollovers from 2009/10	
2009/10 Budget	7,999,239
rolled into:	
2010/11 Plan	1,380,701
2011/12 Plan	8,514,595
Total	9,895,296

A total of \$8.0m of projects budgeted in 2009/10 have been rolled forward into subsequent years. The forecast spend on the projects has increased so that \$1.4m is rolled into 2010/11 and \$8.5m into 2011/12, a total of \$9.9m over both years.

The \$8.0m represents 16.8% of the 2009/10 Budget of \$47.6m which is approximately 2.0 months spend on a pro rata basis. More than \$7.0m of this relates to TNP which was rescheduled during the course of the year.

4.3.3 Project Documentation Review

Major Projects >\$1.0m

IST Major Projects - 2011/12	
Project Size	2011/12
\$1.0m - \$1.5m	4
\$1.5m - \$5.0m	11
Total	15

Transpower has provided Strata with documentation for the 10 largest projects and a small number of other projects selected by Strata.

The key documents provided by IST for review was the Draft Investment Brief. In Strata's view this has limited impact in ensuring least-cost capex is achieved or in establishing the validity of the project data contained in the Project List. The DIB has value generally in setting out a clear description of the project and

its objectives, drivers and benefits, and a high level view of the costs. However, the DIBs sighted did not provide confidence to Strata that the project was likely to be completed on budget and on a least-cost basis.

In large part this is a reflection of the early stage the project is at and it is simply not possible to be any more accurate or complete at that stage.

Minor Projects < \$1.0m

IST Minor Projects - 2011/12	
Project Size	2011/12
\$0 - \$0.5m	16
\$0.5m - \$1.0m	6
Total	22

The table above shows that the majority of projects are small and, as noted previously, the level of analysis should be commensurate with the size of the project. However, it is important, because of the number of smaller projects involved, to ensure the key disciplines relevant to achieving least-cost capex are maintained. The approach of having mandatory fields in approval documents is considered to be a good means of ensuring this.

Nothing in the material Strata has reviewed raises any particular concerns regarding Minor Projects.

4.4 IST – Conclusions and Proposed Adjustments

4.4.1 Conclusions

Strata’s key concerns in relation to IST capital expenditure are:

- the efficacy of IST’s planning and challenge processes in developing an achievable capex programme;
- IST’s capacity to fully implement a capex programme substantially as planned; and
- the low level of project approvals
- the accuracy of the draft Business Plan
- the appropriateness of the Business Plan as a basis for establishing a Threshold.

The concerns are based on Strata's key findings in each of the following areas:

Current Year and Historical Performance (see Appendix III)

- **Projects not progressed**
 - on a Budget of \$47.6m, \$19.7m of projects are not forecast to be progressed at all; and
 - 68 of 99 projects were less than 50% through the year-to-date Budget at the half year. These projects (\$42.1m) represent 88% of the total annual Budget of \$47.6m.
- **Unplanned projects**
 - there are 82 unplanned projects in the 2009/10 year compared with 99 projects in the original Budget. These are forecast to cost \$12.9m.
- **Achievement of Budget**
 - Although IST has forecast it will reach 95% of Budget by year-end, at the half-year it had only achieved 47% of the year-to-date budget.

Policy and Process Review (see Appendix IV)

- **Cost Containment and Reduction Targets**
 - Although IST has set a 10% reduction target, it does not appear to have a set of targets arising from strategies developed to achieve that.
- **Asset Management Framework**
 - Achieving least-cost capex could be further reinforced with the introduction of a recognised asset management framework such as PAS 55.
- **Draft Investment Briefs**
 - As confirmed by Strata's review of the documents provided by IST, the Draft Investment Briefs do not apply sufficient rigour to provide confidence in the forecast project costs or achieving least-cost capex.
- **Project Deferral**
 - The process for deferring projects is not considered sufficiently robust.

2011/12 Project List Review

- **Delays in Project Implementation**

- Internal delays in finalising the scope of work and the Business Case were an evident cause of delay.

- **Non Approved Projects**

- 97% of projects in the Project List have not been approved.

There have however been a number of significant improvements to the IST policy and processes, notably:

- Increased programme management resource and the bringing of the TNP programme management functions in house;
- Project approval documentation has been improved (although it has not yet been applied to 2011/12 projects)
- The amalgamation of the procurement functions of IST and RRE is expected to drive significant benefits over time; and
- A broad cost containment and reduction target of 10% has been set by IST and progress against it is being monitored. Significant gains have already been noted.

4.4.2 Adjustment Options

The review of IST’s current year performance and its policies and processes is undertaken to provide information relevant to the assessment of the IST 2011/12 Business Plan for use as a Threshold.

As discussed at 3.4.2 Adjustments Options (for RRE) two options for adjustments have been considered. The assessment of these options is summarised below.

Option 1: Historical level Threshold

A three year average based on actual historical expenditure levels could be used to provide some levelling of major one-off projects that may have occurred in a single year. As calculated below the Threshold for 2011/12 (excluding TNP leases) based on historical three year average IST actual expenditure would be \$27.2m, compared to the Business Plan total of \$41.7m.

\$ millions Financial Year ended	Full Year Actual Expenditure
Jun-07	19.6
Jun-08	31.2
Jun-09	30.8
Three Year Average	27.2

Option 2: Adjustment to Proposed Project List

The second option is a continuation of the previous approach of taking Transpower's proposed list and adjusting it to take into account a range of factors including the adequacy of the policy and processes, procurement methodologies, a focus on least-cost, challenge processes, capacity to implement capex, options analysis and costing methodologies. The amount of the allowance would vary significantly depending on the particular adjustments proposed.

Recommendation

As discussed in Section 3 there are a number of factors to consider when evaluating these two options for the setting of a Threshold for 2011/12:

- the historical cost average approach is a simple methodology to apply and is based on actual performance by Transpower;
- some base data for the historical cost average approach will be as much as 5 years old by the time the Threshold applies;
- the drivers of capex levels have changed over the past two years;
- a \$27.2m Threshold falls very significantly below Transpower's 2011/12 IST Business Plan expenditure of \$41.7m which it considers to be required to appropriately manage the transmission assets;
- the low level of approvals of means almost all projects in the Business Plan for 2011/12 have not been fully subject to Transpower's processes;
- IST has further improved its processes which, if applied appropriately, are expected to result in more efficient and accurate planning.
- IST expenditure is technology driven and Transpower needs to be responsive to opportunities created. For example, 'smart grid' developments may introduce opportunities that require capital expenditure in IST infrastructure.

On balance Strata's view is that it is more appropriate to use a current assessment of the required capex rather than a historical cost average approach. However the concern remains regarding the very low-level of project approvals in the 2011/12 Business Plan and the likelihood that components of it will change between now and July 2011.

Strata's notes the 2011/12 Business Plan is primarily a continuation of TNP and the level of capex is almost identical (\$69.5m in 2010/11 and \$65.8m in 2011/12).

Given the extent of the similarities between the Business Plans for each year and the absence of a better alternative, Strata recommends the Commission adopts the approach of applying the same level of Threshold as is established for the 2010/11 year to the 2011/12 year.

4.4.3 Proposed Adjustments

As discussed above Strata proposes applying the same Threshold to the 2011/12 year as is calculated for the 2010/11 year.

5. Compliance with Settlement Agreement

In its review of the 2010/11 year Strata has undertaken an assessment Transpower's compliance with the specific requirements of the 12 May 2008 Settlement Agreement. For this Review Strata has assessed Transpower's compliance with the relevant sections of the Settlement Agreement for the 2011/12 year.

The table below is a revision of the assessment undertaken for the review of the 2010/11 year adjusted to include the assessment results for the 2011/12 year.

Compliance requirement	Strata's comment
<p>1. The levels of contingency included in the project budgets have been established so that they are no more than 7.5% for IT and 0% for replacement, refurbishment, minor development and enhancement expenditure.</p>	<p><i>Transpower has advised that Draft Business Plan capital expenditure for RRE contains no contingency sums. Transpower has advised that Draft Business Plan capital expenditure for IST includes contingencies no greater than 7.5%.</i></p> <p>Strata confirms that Transpower has complied with this requirement</p>
<p>2. The expenditure forecasts have been prepared in accordance with Transpower's capital works and IT planning processes and policies.</p>	<p><i>A potential breach may have been identified in relation to the OHK-EDG Grillage project where approximately \$360,000 may have been expended without formal approval. Otherwise no breaches or potential breaches have been noted.</i></p> <p>Strata confirms that, except as described above, Transpower has complied with this requirement in respect of the projects approved. However, given 97.0% of IST projects and 70% of RRE projects (by value) have not yet been approved, Strata cannot confirm Transpower's compliance with this requirement in respect of RRE's Business Plan for 2011/12.</p>
<p>3. Transpower's processes have considered and targeted appropriate least-cost, efficient,</p>	<p><i>Since the 2009/10 Review Transpower has taken a significant number of further steps towards targeting appropriate least-cost,</i></p>

Compliance requirement	Strata's comment
<p>interventions.</p>	<p><i>efficient, interventions. A number of new policy and process changes have been made including:</i></p> <ul style="list-style-type: none"> • <i>RRE asset management strategy documents;</i> • <i>improved project initiation and approval documents;</i> • <i>the amalgamation of the procurement functions of IST and RRE;</i> • <i>structural changes within IST to enhance the project management process and a general increase in the resourcing of project management functions across IST and RRE.</i> <p>While steps have been taken to progress the setting and monitoring of specific capital expenditure reduction and containment targets within IST, further work is required. In respect of RRE little appears to have been done as yet.</p>
<p>4. Transpower has proactively pursued and implemented process improvements and delivered on commitments made to review the scope for improvement to its non-Part F capital works processes around (a) procurement audit, (b) review of open book tendering for R&R, and (c) PAD templates.</p>	<p><i>In respect of each point Strata considers that:</i></p> <ul style="list-style-type: none"> - <i>procurement has been an area of focus;</i> - <i>open book tendering is apparently not considered a live option by Transpower, however it has noted that in many instances it has received disclosure of margins without a contractual requirement to do so; and</i> - <i>the PAD templates have now been superseded by the Business Case document which Strata considers to be appropriate.</i>

6. Summary

Transpower has made significant progress since the previous Strata Review in the development of policies, processes and supporting organisational structures which contribute positively to ensuring least-cost capex. In addition to a clear increase in the general level of focus on achieving least-cost capex, there have been a number of specific improvements including:

RRE

- new project initiation and approval documentation;
- the development of asset strategy documents; and
- the amalgamation of the procurement functions of IST and RRE.

IST

- a broad cost containment and reduction target of 10%;
- the amalgamation of the procurement functions of IST and RRE; and
- increased programme management resource and the bringing of TNP programme management functions in-house.

However, a number of issues noted in the course of the Review give rise to significant concerns:

- no spend is forecast on 32% of RRE's Budget and 41% of IST's Budget in 2009/10;
- a very high level of unplanned projects is evident:

Unplanned vs Budgeted Projects		
	Unplanned	Budgeted
RRE	431	530
IST	82	99

- RRE's maintenance of data records and mis-categorisation of the Marsden Redevelopment Stage I project means that a minimum additional \$21m should have been included in the Budget;
- the rollout of the US-Cost costing system appears to have been delayed and the anticipated benefits have not been delivered;
- a set of comprehensive cost containment or reduction targets have not been set for RRE; and

- a high number of projects in the 2011/12 IST and RRE Project List have not yet been approved.

Strata's key concerns relate to Transpower's capacity to implement both the RRE and IST 2011/12 Budget. In Strata's view the performance thus far against the 2009/10 Budget suggests failings in a range of areas (although we note RRE forecasts to significantly exceed its Budget in 2009/10). These areas include:

- project challenge and planning processes which should ensure that the budgets are achievable, that the necessary resources will be available, and that adequate steps are taken to minimise delays due to contractors and internal processes; and
- project management functions which perform in delivering projects to budget and on time.

The poor performance in implementing the 2009/10 Budget substantially as planned, a poor historical record in delivering against budget, and a significant increase in the overall level of capex leads Strata to the view that Transpower's IST and RRE budgets should be discounted when setting the Threshold for 2011/12. This is despite the range of improvements Transpower has made.

7. Recommended RRE and IST Threshold

As discussed further above the significant proportion of projects which have not been approved adds significant doubt in respect of whether the 2011/12 Business Plan is an appropriate basis for calculating a Threshold for that period. Strata has considered the alternative of taking the average actual annual capex over the period from 2006/07 to 2008/09. However circumstances and Transpower's strategies have changed significantly since that time in a manner which has tended to increase the required level of capex.

Strata considers the alternative approach of setting the 2011/12 Threshold at the same level as the 2010/11 Threshold is the most appropriate option because:

- many aspects of the 2011/12 Business Plan are a continuation of the same activities as in 2010/11; the key determinants of capex levels for both years are very similar;
- Transpower's 2010/11 Business Plan is best available view of required capex because it has been developed at the project and programme level and (unlike the 2011/12 Business Plan) has been subject to Transpower's processes; and
- the proposed level of capex is almost identical (\$246m in 2010/11 and \$243m in 2011/12).

Strata's recommendation is for the Threshold for the 2011/12 year be established at \$210.3m, the same level as recommended for the 2010/12 year.

Appendix I – Capital Expenditure Definitions

Transpower defines capital expenditure in the following areas:

Refurbishment: expenditure on an asset, or sub-component, that *materially* extends its original economic life but does not improve its original service potential.

Replacement: replacement expenditure which is primarily due to the condition or performance of an asset but where replacement does not *materially* improve its original service potential.

Enhancement (non Part F): enhancement and development projects involving existing or new assets which are intended to:

- bring performance to a level of good industry practice;
- ensure compliance with statutory or Electricity Governance Rules requirements;
- correct historical design or construction issues; or
- provide physical protection of assets.

Practical financial limits are applied by Transpower so that assets below \$1.0-\$1.5m and programmes of work below \$5.0m are not submitted for approval under Part F.

Telecommunications: capital expenditure relating to the upgrade and replacement of the telecommunications network used for operating the grid.

SCADA EMS: capital expenditure relating to the upgrade and replacement of the application System Control & Data Acquisition / Energy Management Systems (SCADA EMS) used for operating the grid.

SCADA RTU Protocol: capital expenditure relating to the upgrade and replacement of the Remote Terminal Units (RTU) and other station devices used to provide data to SCADA and other grid-operating applications.

Network Systems R&R: capital expenditure relating to the maintenance of components such as RTUs, and the replacement and refurbishment of systems used in support of operating the grid, such as asset management systems.

Appendix II – Definition of Asset Replacement, Refurbishment and Enhancement Capital Expenditure

1. In order to meet its obligations to transmission customers and to comply with relevant legislation, standards and EGR, Transpower undertakes capital investments in and maintenance of its assets and systems. A major proportion of this expenditure is subject to approval from the Electricity Commission under Part F of the EGR (until 30 September 2010, thereafter this expenditure is subject to approval from the Commerce Commission).
2. However, in addition to capital expenditure subject to testing under Part F, Transpower undertakes smaller and more routine investment and maintenance under its capital replacement, refurbishment and enhancement and development programmes. Such expenditure is not scrutinised and approved by the Electricity Commission. Whilst still meeting its service obligations, Transpower is required to manage these programmes in a manner that ensures the services grid users and consumers want are delivered at least cost. Strata regards the 'least-cost objective' and 'minimising the whole-of-life costs' as synonymous. The quantum and timing of capital expenditure is directly relevant to achieving least cost. It is considered that this view is consistent with the Government Policy Statement.
3. Transpower has defined replacement, refurbishment and enhancement capital expenditure as follows:

refurbishment: expenditure on an asset, or sub-component, that *materially* extends its original economic life but does not improve its original service potential;

replacement: replacement which is primarily due to the condition or performance of an asset but where replacement does not *materially* improve its original service potential; and

enhancement (non Part F): enhancement and development projects involving existing or new assets which are intended to:

 - bring performance to a level of good industry practice;
 - ensure compliance with statutory or Electricity Governance Rules requirements;
 - correct historical design or construction issues; or
 - provide physical protection of assets.
4. Practical financial limits are applied by Transpower so that assets below \$1.0-\$1.5m and programmes of work below \$5.0m are not submitted for approval under Part F.

Appendix III – Project List Assessment

RRE & IST Major Projects

Project List Assessment - Major Projects > \$1.0m	
Question	Comment
Has the project been categorised correctly, taking into account (among other things): - expenditure which has been included in operational expenditure - expenditure which has been included in a GUP - projects valued at less than \$1.0m?	Yes
Have the levels of contingency included in the project budgets been established in accordance with Part 2(e), Schedule 2 of the Settlement?	Yes
Are there any projects due to the result of an Insurance Event occurring in that or any previous financial year, for which insurance income is, or is reasonably anticipated by Transpower, to be received?	Strata has not been advised of any such projects
Has Transpower provided documentation for each project which demonstrates, to the satisfaction of the Commission, that the expenditure forecasts have been prepared in accordance with Transpower's capital works and IT planning processes and policies?	Transpower has provided Strata with documentation for the ten largest projects and for a number of other projects selected by Strata. Strata is satisfied except as noted in the discussion above that Transpower has complied with its capital works processes and policies
Has each project taken into account anticipated benefits of policy and process improvements?	Except as commented on above Strata considers Transpower has anticipated the benefits of policy and process improvements

RRE & IST Minor Projects

Project List Assessment - Minor Projects < \$1.0m	
Question	Comment
Has the project been categorised correctly, taking into account (among other things): - expenditure which has been included in operational expenditure - expenditure which has been included in a GUP - projects valued at more than \$1.0m?	Yes
Have the levels of contingency included in the project budgets been established in accordance with Part 2(e), Schedule 2 of the Settlement?	Yes
Are there any projects due to the result of an Insurance Event occurring in that or any previous financial year, for which insurance income is, or is reasonably anticipated by Transpower, to be received?	Strata has not been advised of any such projects
Has each project taken into account anticipated benefits of policy and process improvements?	Strata considers Transpower has anticipated the benefits of policy and process improvements