

TRANSPower NEW ZEALAND LIMITED

Without Prejudice

Explanatory Material to Transpower's
Formal Settlement Proposal

19 September 2007

TRANSPower



1. Introduction

1. This paper discusses various aspects of Transpower's settlement proposal in more detail.
2. Section 2 of the paper provides a brief overview of the proposed new thresholds and comments on why Transpower considers its proposal is an appropriate basis for an administrative settlement in the context of the overall statutory framework of the targeted control regime. Section 3 considers implementation issues. Section 4 discusses each of the principles relevant to Transpower's proposed transmission (revenue requirement) threshold. Section 5 discusses the proposed transmission (non-Part F capex) threshold. Section 6 briefly comments on the proposed threshold for the System Operator function. Compliance issues are considered in Section 7.

2. Overview of Approach

2.1. Thresholds

3. As outlined in Transpower's settlement proposal, Transpower proposes that any concerns identified by the Commerce Commission in the course of its post-breach inquiry be addressed by establishing new thresholds in substitution for the existing price path threshold. Three new thresholds are proposed: a transmission (revenue requirement) threshold that applies to revenue setting and recovery; a separate expenditure threshold for non-Part F capital expenditure; and a System Operator services threshold. The current quality threshold would continue to apply to Transpower.
4. Transpower believes that the proposed thresholds are consistent with Subpart 1 of Part 4A of the Commerce Act.

2.1.1. *Transmission (Revenue Requirement) Threshold*

5. Transpower uses a building block approach to determine its AC revenue requirement and HVDC revenue requirement for transmission services. This approach together with an economic value (EV) adjustment charge aims to ensure that Transpower's AC revenue requirement and HVDC revenue requirement generate sufficient returns over time to finance Transpower's efficient operating costs, including tax, and to provide its lenders and its shareholder with a return of, and return on, the capital invested in the assets used to provide transmission services. The EV adjustment ensures that Transpower does not earn excess returns over time.
6. The proposed transmission (revenue requirement) threshold identifies a number of principles to be used as part of Transpower's building blocks approach and

requires Transpower to demonstrate that in setting and recovering its required revenue it has applied these principles.

7. The principles, while they do not exhaustively prescribe the approach required to determine Transpower's revenue requirement, are designed to ensure that Transpower recovers an efficient level of revenue. Any failure by Transpower to meet the principles in setting and recovering its revenue requirement would constitute a breach of the transmission (revenue requirement) threshold and could be used by the Commission to institute a more detailed examination of Transpower (a post-breach inquiry).
8. The threshold principles apply, and are to be reported against, separately for Transpower's AC transmission revenues and HVDC transmission revenues. Separate reporting is required in respect of Transpower's revenue setting process for the start of a pricing year, as well as application of the EV adjustment mechanism at the end of the pricing year. For simplicity of compliance assessment, revenue setting and revenue for a pricing year (April to March) will be matched against expenses in the corresponding financial year (July to June). Compliance will be reported ex post, on an annual basis following the end of the pricing and financial years.

2.1.2. Transmission (Non-Part F Capex) Threshold

9. Non-Part F capital expenditure is not currently subject to scrutiny by the Electricity Commission. The work primarily relates to expenditure on existing assets. The categories of project included in the definition of non-Part F capital expenditure are defined in schedule 2 of the settlement proposal. The proposed threshold would set an annual limit on the capital expenditure, which Transpower could undertake without breaching the threshold.
10. The Commerce Commission has signalled that it would prefer the Electricity Commission to extend its current Part F investment approval processes to include this expenditure in the future. If the Electricity Commission puts in place processes to approve such expenditure, Transpower will submit the expenditure to the Electricity Commission for approval and only include approved expenditure in the revenue requirement. Any such expenditure related to an "extended" Part F approvals process would then be excluded from the threshold. Transpower will work with the Electricity Commission to develop an appropriate form of regulatory oversight and approval processes for this expenditure.

2.1.3. System Operator Services Threshold

11. System Operator services are currently provided to the Electricity Commission under a fixed price contract, which was negotiated and agreed with the Electricity Commission.

12. The System Operator services threshold will require Transpower to demonstrate that it has charged for System Operator services in accordance with the System Operator Service Provider Agreement (SOSPA).
13. The System Operator threshold is proposed to ensure continuity between the current and new threshold regimes in terms of the services that are regulated (i.e. transmission services and System Operator services).

2.1.4. Quality Threshold

14. The quality threshold, which currently applies to Transpower under the Commerce Act (Transpower Thresholds) Notice 2007, will continue to apply to Transpower.

2.2. Legal Framework

15. Transpower's view is that while Part 4A remains the regulatory framework within which it must operate, that the Part 4A purposes are best achieved by adopting the proposed new thresholds and that the adoption of these new thresholds will:
 - provide a better targeted approach to the setting of Transpower thresholds;
 - take better account of the business and regulatory environment in which Transpower operates;
 - identify a level of behaviour, which, if complied with, will provide assurance that price control is not required;
 - provide improved filters to identify circumstances that may justify control; and
 - provide a mechanism for the Commerce Commission to both monitor and incentivise Transpower while addressing any concerns identified by the Commerce Commission during the course of its post-threshold-breach inquiry.
16. Settlement on this basis is consistent with the existing statutory framework of the targeted control regime. The settlement proposal is made without prejudice to any submissions Transpower has made, or may make in the future, as to the appropriateness of Part 4A as the basis for economic regulation of Transpower's services.
17. If implemented, the proposed thresholds will replace the thresholds gazetted by the Commerce Commission in June 2007 and operate in the same manner as other thresholds set by the Commerce Commission under section 57G. In this regard they will be an integral part of the targeted control regime under the Act. Transpower will be required to submit audited threshold compliance statements to the Commerce Commission that demonstrate compliance. The Commerce Commission will then be required to assess Transpower against the revised

- thresholds in accordance with section 57H(a) in the usual way. The proposed compliance arrangements are discussed in more detail in Section 7.
18. If the parties reach an agreement on settlement, Transpower's commitments will be recorded in a Deed.
 19. Having identified that Transpower has breached the previous price thresholds, Transpower considers the Commerce Commission must either determine to declare control on some or all of the services provided by Transpower (and do so); or determine not to declare control and publish reasons for not doing so (section 57H(d)).
 20. Accordingly, Transpower considers that a decision by the Commerce Commission to accept its settlement proposal and implement the proposed thresholds, must necessarily also include a determination not to declare control.

3. Implementation Issues

3.1. Compliance during 2006/07 and 2007/08

21. To comply with notice and pricing provisions binding on it, Transpower, following discussion with the Commerce Commission, announced on 4 December 2006, adjusted prices for the 2006/07 pricing year and new prices for the 2007/08 pricing year. The prices incorporated a 12.2% increase for the 2006/07 pricing year backdated to 1 April 2006 compounded with a 2.7% increase for the 2007/08 pricing year to give an overall increase of 15.2% over the March 2006 level.
22. In March 2006 when Transpower announced it was seeking an administrative settlement with the Commerce Commission, Transpower effectively agreed to hold prices constant (by providing its customers with a credit equivalent to planned price increases) pending the outcome of those discussions. It was always anticipated that an administrative settlement would include a mechanism for implementing any agreed revenue increase for the 2006/07 pricing year. Transpower provided the credit for the entire pricing year. Thus, it has not recovered any price increase during the 2006/07 pricing year.
23. The under-recovery of revenue in the 2006/07 pricing year, relative to the revenue which would have been recovered if Transpower had set revenues consistent with the transmission (revenue requirement) threshold, will be transferred to the Customer Accounts and recovered through the EV adjustment process at the revenue setting stage of the pricing year.
24. The adjusted prices for 2006/07 and new prices for 2007/08 agreed with the Commission in December 2006 were subject to consultation on the administrative settlement. Since then there have been changes to certain aspects of the settlement proposal. The revenue for 2006/07 and 2007/08 will be adjusted with the changes (including any changes that may result from the

Commission's consultation process) being accommodated through the EV adjustment process. These adjustments will be audited as part of Transpower's compliance reporting process.

25. Transpower proposes to report compliance with the new transmission (revenue requirement) threshold, the transmission (non-Part F capex) threshold, the quality threshold and the system operator threshold in September each year for the financial year ended the preceding June. In reporting compliance with the transmission (revenue requirement) threshold, Transpower will report whether it complied with the threshold principles in setting its revenue requirement (including any EV adjustment) and in recovering its revenue (i.e. the calculated economic loss or gain has been transferred to the Customer Accounts).
26. For the two pricing years 2006/07 and 2007/08 where the revenue requirement has been established before the administrative settlement has been agreed, Transpower's compliance will focus on the EV loss or gain transferred to the Customer Accounts being made to ensure that the revenue actually recovered in those pricing years is consistent with the terms.

4. Further Explanation of the Transmission (Revenue Requirement) Threshold

27. This section provides an overview of Transpower's building blocks approach to setting its revenue requirement and the constraints the proposed transmission threshold will apply to the building blocks.

4.1. Overview of Proposed Principles and Approach

28. The building blocks formula used by Transpower on an annual basis to calculate the AC and HVDC revenue requirement is as follows:

Annual revenue requirement	=	(RAB x WACC) + operating costs + depreciation + cash tax payable + interest tax shield (+/- asset revaluations (if any) +/- EV adjustment).
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29. Each building block is based on forecasts from Transpower's business plan for the July to June financial year (the 'relevant financial year') that commences after the start of the pricing year. The Regulated Asset Base (RAB) is the average of the opening and closing operating capital for the relevant financial year. WACC is Transpower's weighted average cost of capital (which incorporates the cost of Transpower's equity estimated using the capital asset pricing model). Operating costs include operating and maintenance costs, and departmental expenditure. Depreciation includes asset write offs. Cash tax payable is the estimated tax

- payable in the relevant financial year. The interest tax shield represents the tax benefit Transpower obtains from using debt funding.
30. At the completion of the relevant financial year, Transpower applies its economic value (EV) framework to calculate ex-post actual economic gains or losses which arise as outturns differ from forecasts. It allocates these between customers and shareholders by transferring them to the relevant Customer Accounts or shareholder account and returns or recovers them over time.
31. The transmission (revenue requirement) threshold constrains the following aspects of Transpower's revenue setting and recovery process:
- the economic value (EV) framework (both as to the amount allocated to Customer Accounts and the EV adjustment);
 - Part F capital expenditure;
 - Transpower's approach to valuing its transmission system fixed assets for regulatory purposes;
 - depreciation, impairment and asset stranding;
 - Transpower's cost of capital;
 - the treatment of tax; and
 - operating costs.
32. The settlement requires Transpower to continue to operate the EV framework during the period that the proposed thresholds will apply.
33. Transpower will not be able to include Part F investments into the asset base unless the investment has been approved by the Electricity Commission. Part F and non-Part F capital investment expenditure will be held in a works under construction account until commissioned. Transpower will be able to include investment expenditure in transmission corridors (e.g. land, easements, and ducts) and other related land and easements upon approval by the Electricity Commission and acquisition, but only in accordance with the terms of the threshold. Transpower will not include in the asset base land purchased to gain an easement where the intention is to on-sell the land.
34. The constraints on Part F investment are designed to ensure that new Part F investment is efficient, that Transpower seeks approval for all such investment and that customers only pay for transmission assets when they are commissioned. The treatment of land and easements will help ensure Transpower acquires these in a timely manner.
35. Transpower's starting regulatory asset base is based on the 30 June 2006 ODV. Transpower will use depreciated historic cost accounting principles to value transmission system fixed assets through the settlement period.

36. Transpower will receive a return of capital through a depreciation charge. The depreciation charge calculated will be consistent with GAAP and the DHC valuation methodology.
37. The WACC has been set at the level determined by the Commerce Commission to be commensurate with the risks of Transpower's business and in line with market benchmarks.
38. The constraint on tax will ensure that Transpower continues to calculate tax in accordance with the tax payable approach preferred by the Commission.
39. The constraints on operating costs are designed to ensure Transpower continues to face incentives to minimise its costs. Transpower's annual operating expenditure will in effect be capped and any over expenditure will either not be recovered or if it is recovered will result in a breach. Because Transpower may keep the benefits of cost reductions below the cost path, it will have incentives to achieve cost savings in addition to those inherent in the path.

4.2. Economic Value Framework

40. Transpower is bound by contract and regulation to a pricing year commencing 1 April. In common with most other crown owned entities, Transpower's financial year extends from July to June. Thus, there is a mismatch between the 'pricing' and the 'financial' years.
41. The revenue requirement for the pricing year (as reflected in customer charges) is set in October/November, based on Transpower's business plan projections. Customers are notified of new prices in November/December to provide customers with the required minimum notice period of three months.
42. Because of the misalignment of the pricing and financial years, the year 2 business plan forecasts (i.e. for the forthcoming financial year) most closely reflect anticipated costs in the pricing year, and are therefore used as the basis for determining the revenue requirement.
43. Revenue requirements are therefore forecast some twelve months in advance of prices coming into effect. While the forecasts are based on the best available information at the time, there are inevitable limitations on such forecasts. The EV framework (which includes EV accounts as well as an EV adjustment process) is used by Transpower to ensure that over or under recoveries that result from outturns varying from forecasts are addressed in future revenues and prices.
44. Transpower reports its financial performance in economic value terms at the end of each financial year. The economic value statements are based on the company's audited financial results. Given the mismatch of the pricing and financial years noted above, adopting a financial year for reporting of revenue would result in inclusion of three quarters of one pricing year and one quarter of the following. Because this is likely to complicate the assessment of compliance, Transpower has proposed instead that the revenue for the pricing year 1 April to

- 31 March, be matched against the expenses in the financial year, 1 July to 30 June for the purposes of threshold (including EV) reporting. Transpower will prepare EV accounts, and calculate the economic gains or losses, on this basis.
45. The ex-post economic gains or losses attributable to AC and HVDC customers will be accumulated (separately) in the Customer Accounts.
 46. Currently, balances in the Customer Accounts incur interest at Transpower's cost of equity. Transpower proposes that the interest rate be set to Transpower's allowed WACC for the purposes of the threshold. This will ensure a more consistent treatment across Transpower's activities, and more closely align the interest costs to customers' cost of capital. AC customers currently benefit from interest being accrued at the cost of equity while HVDC customers currently pay this higher interest rate on balances in their account.
 47. Transpower also has proposed relaxing the 10% constraint, to allow Transpower to increase the returns it can make to customers at its discretion. A 10% constraint will remain in relation to recoveries from customers to smooth any significant changes in customer charges.
 48. Currently, in establishing the economic gains or losses to customers, a number of items have been considered to be 'to the account of the shareholder'. These include:
 - The optimisation value adjustments arising from application of the ODV methodology.
 - Differences between construction costs and ODV values.
 - Value adjustments for assets with lower cost economic alternatives, arising from the application of the ODV methodology.
 - Material inefficient costs.
 - Revenue write-offs or provisions, other than in respect of credit risk, including the cost of proceedings where Transpower is unsuccessful.
 49. Under the new thresholds, a number of these adjustment items will no longer apply and additional items will be included to the shareholder account. Most importantly, the shareholder will bear the risk of operating expenditure being above or below the cost path. Economic losses may also arise to the extent the allowed WACC proposed in the terms is below Transpower's own estimate of its WACC. Transpower also bears the risks of any structured finance arrangements and cross border leases.
 50. Economic value adjustments to customers in the future will primarily arise from differences between the forecast and actual revenue requirements. With the

adoption of DHC, optimisation and revaluation adjustments will no longer occur¹. There is unlikely to be a difference between construction costs and the costs included in Transpower's asset base used to determine Transpower's AC revenue requirement and HVDC revenue requirement². Variations between forecast and actual revenue requirements may arise from differences between forecast and actual values of (including timing of) operating capital including new capital expenditure on assets that will be commissioned and included in the asset base, CPI (affecting operating expenses) and other building blocks such as depreciation.

4.3. Capital Expenditure

51. The capital expenditure terms mean that Transpower's capital expenditure (other than for minor assets and business support) is subject to the scrutiny of the Electricity Commission, or covered by an expenditure threshold, or negotiated with customers.
52. The scrutiny by the Electricity Commission of Part F investment should assure Transpower's customers that the investment is efficient. Transpower will not have incentives to undertake Part F investment prior to Electricity Commission approval, given the risk that it might not be able to obtain a return on and of capital if approval is not granted.
53. Transpower will not include in its revenue requirement, investment that has not yet been approved by the Electricity Commission i.e. it will not forecast that it will receive such approval or that such expenditure will be commissioned in the forecast period. As a result, the forecast operating capital base will tend to be too low, delaying the recovery of some investment and requiring on-going adjustments through the EV account. This approach has been adopted to meet the Commission's concern that Transpower may 'pre-fund' some investment if the actual expenditure profile differs from the anticipated profile.
54. Given the long lead time that Transpower faces when acquiring transmission corridors and other land and easements, the thresholds should not unduly constrain Transpower's ability to prudently acquire such assets. Appropriate incentives for Transpower to progress this type of investment at an optimal time will be provided by allowing these assets to be included in the asset base upon approval from the Electricity Commission (where such approval is required) and purchase, rather than waiting for the commissioning of the associated project.
55. Transpower's proposed approach to land, easements and transmission corridor investment is based on the following considerations:

¹ In recent years, previous optimisations have been reversed as the load growth has increased, resulting an increase in Transpower's operating capital.

² Transpower notes, however, uncertainty remains until the Electricity Commission clarifies the basis of recovery of investment costs.

- Customers benefit from allowing Transpower to progress certain investments in a timely manner. If purchases of land and easements are left until the last minute, Transpower may have to pay a premium and/or invoke the costly regulatory process for compulsory acquisition. These additional costs would be borne by customers.
 - Transmission corridors, land and easements when acquired in advance of an associated project may have a strategic option value to customers, as long as Transpower has a clear strategic intent to use the assets in carrying out its future business activities.
 - The lead time between the purchase of land and easements, and the commissioning of associated assets can be long. Allowing land and easements to be included in the asset base (upon approval and purchase), and a return recovered, will ease some of the pressure on Transpower's balance sheet resulting from its significant capital expenditure programme.
 - Transpower considers that it should bear the risks associated with the treatment of land that it purchases to achieve an easement and then on-sells. Such land is excluded from the regulatory asset base and thus from the calculation of the transmission revenue requirement. The value of the easement created will be determined by an independent valuation.
56. Transpower believes that its proposed approach is consistent with the October 2006 Government Policy Statement which states at para 88B that "the Government... expects Transpower and the Electricity Commission to ensure that Transpower identifies and secures appropriate interests in land, designations or resource consents required for transmission corridors and to the extent possible, resource consents (or designations) well in advance of urgent need. Transpower should be able to recover the reasonable net costs of so doing."

4.4. Accounting for the Regulatory Asset Base

57. Transpower proposes adopting DHC to account for the regulatory asset base. The ODV of the transmission system fixed assets at 30 June 2006³ is the basis for the starting historical cost values. The net book value at 30 June 2007 will be the ODV at 30 June 2006, plus capital expenditure less disposals and depreciation. Transpower used the expected 30 June 2007 asset base (valued on a historic cost basis) to determine Transpower's AC revenue requirement and HVDC revenue requirement for the pricing year commencing 1 April 2007.

³ The review of transmission replacement costs was not completed in time to affect the June 2006 ODV.

4.4.1. Preference for DHC

58. Transpower favours the DHC methodology for valuing its fixed assets for the following reasons:

- The DHC approach can produce dynamically efficient outcomes by allowing Transpower to invest with certainty, and will facilitate the monitoring of financial and economic performance.
- DHC is administratively simple and transparent. It is easy to implement and offers synergies and cost savings by aligning the regulatory and financial accounts, reducing compliance and transaction costs.
- The DHC approach best matches cash flows to the need to fund the major investments Transpower is undertaking. Use of DHC will allow Transpower to maintain its debt servicing ratios at levels that will allow it to continue to access debt funding on acceptable terms and to reduce the residual risk borne by equity holders.
- DHC (compared with indexed historic cost (IHC) or ODV) reduces Transpower's exposure to the risk of regulatory change over the life cycle of its assets. Indexed approaches defer cash flows from the early years of an asset's life to the later years. Where the amortisation period is very long (an average of approximately 50 years in Transpower's case) delaying the recovery of revenue produces an asymmetric risk of value loss, due to possible changes in the regulatory regime⁴ or the operating environment over time.
- While DHC results in the collection of more revenue early in an asset's life, and less revenue later in that asset's life, relative to ODV and IHC, the present value of the revenue recovered is not affected by the valuation method.

59. In summary, Transpower favours DHC given the positive impact it has on mitigating regulatory risk and facilitating access to cost-effective financing at a time when Transpower's investment requirements are substantial, as well as favouring its administrative simplicity and transparency.

4.4.2. Application of Asset Valuation

60. Because ODV has been used to establish the regulatory asset base as at 30 June 2006 and DHC will be used going forward, the regulatory book values and accounting book values for assets created prior to 1 July 2006 will differ. Post 1 July 2006, the accounting and regulatory valuation of assets would generally be aligned.

⁴ For example, regulatory rules governing the recovery of investment already committed may change, leading to insufficient compensation being provided to investors.

61. The result is that, without further adjustments, Transpower will need to maintain an ODV book and a financial accounting (annual report) book, in perpetuity.
62. In order to aid transparency and avoid administration costs it would be desirable to rationalise asset book information. Two possible options for achieving this are discussed below.

The Pseudo Assets Option

63. Under this option Transpower would create pseudo assets for the value difference between the ODV and financial accounting books. Given that AC and HVDC assets are charged for separately, separate pseudo assets would be required for each of these classes. Transpower proposes four pseudo assets: the HVDC line, AC lines, AC substations and HVDC assets. The pseudo assets would be established at a value equal to the difference between the ODV and accounting book values and depreciated to zero over time. Once depreciated to zero, the regulatory and accounting books would be aligned.
64. This option uses the financial accounting book plus the pseudo assets for regulatory purposes. The ODV book would not be required for revenue requirement or EV purposes.

Make Adjustments through the EV Accounts

65. The accounting book value could be adopted for the regulatory accounts. Any adjustments between the 2006 ODV regulatory asset base and the accounting asset base would be treated as a positive or negative revaluation and taken through to the Customer Accounts.
66. Such an adjustment would be NPV neutral for customers, although it would affect cash flows over time.

Conclusion

67. In terms of administrative simplicity, Transpower would prefer the option of making adjustments through the EV Accounts. However, because this may have a greater impact on customers in the short term (the options are neutral over the long term), Transpower has proposed adopting the pseudo assets option.
68. Transpower considers that the main benefit from aligning the financial accounting and regulatory asset books is to make it easier for customers and stakeholders to monitor Transpower's performance. It notes that any savings in administrative costs are likely to be small. Transpower will pass 75% of the identified administrative savings achieved on to customers.

4.4.3. *Revaluation Gain from Replacement Cost Update*

69. The Commerce Commission is currently reviewing the replacement costs used to determine the ODV valuation, which have not been updated since 1999. This review is likely to result in a substantial increase in the value of AC transmission

- system fixed assets and a substantial revaluation gain. The review of replacement costs was not completed in time to affect the 2006 ODV which was used to set Transpower's revenue requirement and prices for 2007/08.
70. Transpower proposes that for threshold purposes the 2006 ODV not be updated with the new replacement costs. Thus, the asset base will not be increased and there will be no need to increase the AC Customer Account.
71. Once known, the impact of the updated replacement costs will be calculated and a proportion of the revaluation gains (to be calculated once the updated values are known) will be attributed to Transpower's shareholder and offset against the AC Customer Account (i.e. it will reduce the balance in the AC Customer Account). This adjustment will correct for past losses that the shareholder has incurred due to the past use of outdated 1999 replacement costs.
72. The main advantages of the proposed approach include:
- It will be revenue neutral in relation to customers compared with an option of increasing the asset value and the AC Customer Account, but it will prevent a very large build up in the AC Customer Account.
 - It will avoid the later increase in prices to customers that would result from a higher asset base.
 - It will provide a better cash flow profile for Transpower (than increasing the asset value), an issue that is particularly important given the on-going capital expenditure programme.
 - Transpower will be appropriately compensated for the past under-valued replacement costs.
 - The methodology can be applied reasonably easily and quickly.

4.5. Depreciation, Asset Impairment and Stranding

73. In the future, assets may be impaired or stranded (for example where a customer is able to bypass Transpower's lines) and the prudent discount provisions of the pricing methodology may be applied. Under the DHC approach, there are three possible options for dealing with this risk:
- Option A: The DHC asset base remains unchanged and Transpower continues to earn a return on that asset base. Where prudent discounts (discounts reflecting bypass opportunities) are offered to particular customers under the transmission pricing methodology, the recovery of the discounted amounts would be reallocated to other customers.
 - Option B: The stranding or impairment results in a return of capital through accelerated depreciation (i.e. adjustment to cash flows). The assets are written down to reflect their impaired value and Transpower ceases to receive a return on capital.

- Option C: The risk of stranding and impairment is borne by Transpower, but is recognised through a margin which is applied to WACC.
74. Given the difficulty of anticipating the likely magnitude of future impairment and stranding and allowing for this in a margin on WACC, Transpower's preferred position is to adjust cash flows (through accelerated depreciation) as impairment or stranding becomes apparent (i.e. Option B). The adjustment may be made through the EV account if not included in the forecast revenue requirement.
75. Transpower notes that the risks of stranding and impairment are not reflected in the WACC. Although businesses in a competitive market might raise prices in anticipation of stranding or impairment thereby increasing returns; they also bear the consequences of stranding or impairment which truncates returns. On average these impacts offset so that stranding and impairment risks are not reflected in WACC.
76. Stranding and impairment are asymmetric risks. Transpower's proposed approach to dealing with stranding and impairment is consistent with the approach proposed by the Commerce Commission in its *Draft Guidelines: The Commerce Commission's Approach to Estimating the Cost of Capital*, November 2005⁵. In that document the Commission notes "Firms face asymmetric risks...Such unfavourable circumstances may include: the stranding of assets...the Commission prefers to handle the risks of adverse events, stranding and optimisation by adjusting cash flows, rather than by adding a margin on the WACC". Transpower's approach accords with the Commission's preferred approach, by treating stranding through cash flows (accelerated depreciation) rather than by adjusting WACC.
77. Transpower's proposed approach to treating stranded and impaired assets, aims to ensure that Transpower can expect to earn WACC returns on its investments. If Transpower cannot recover the costs of expected stranding, Transpower would on average earn less than its cost of capital undermining its incentives to invest.

4.6. Cost of Capital

78. The WACC that will apply to Transpower during the settlement has been calculated using the Commerce Commission's weighted average cost of capital (WACC) methodology, with the parameters used being based on advice provided to the Commission by Dr Martin Lally.
79. Transpower will use a one-year WACC of 7.2% to calculate the AC revenue requirement and HVDC revenue requirement for 2006/07 (and to make the necessary ex post adjustments). The one-year WACC includes a margin of 0.1% as proposed by the Commission, and is based on the input parameters outlined in the table below.

⁵ See for example, pp 27-28 of the Commission's Guidelines.

WACC Parameter	06/07
1 Year Risk Free Rate (R^f) (calculated in August 06)	7.1%
Corporate Tax Rate (T_c)	33%
Asset Beta (B_a) for 1 Year Term	0.3
Equity % (E)	60%
Debt %	40%
Equity Beta (B_e)	0.5
Post Tax Market Risk Premium (PTMRP)	7%
Interest Tax Parameter (T_i)	33%
Cost of Equity (R_e)	8.3%
Debt Margin (dm)	1.0%
Cost of Debt (R_d)	8.1%
$R_d (1-T_c)$	5.4%
Weighted Average Cost of Capital	7.1%
Margin on WACC	0.1%
Proposed 1 Year WACC	7.2%

80. For the remaining four years of the settlement, Transpower will use a four-year WACC calculated using the parameters in the table below. The WACC for these years will not include a margin.
81. Transpower notes that the WACC for 2006/07 and 2007/08 is based on a corporate tax rate of 33%. The Government has announced that the corporate tax rate will be reduced from 33% to 30% from the 2008/09 financial year onwards. The updated tax rate has been incorporated from 2008/09.

WACC Parameter	07/08 and on
4 Year Risk Free Rate (R^f) calculated in June 07	7.2%
Corporate Tax Rate (T_c) before/after tax changes	33/30%
Asset Beta (B_a) for Four Year Term	0.375
Equity % (E)	60%
Debt %	40%
Equity Beta (B_e)	0.63
Post Tax Market Risk Premium (PTMRP)	7%
Interest Tax Parameter (T_i)	33%
Cost of Equity (R_e)	9.2%
Debt Margin (dm)	1.0%
Cost of Debt (R_d)	8.2%
$R_d (1-T_c)$	5.5/5.7%
Proposed Four Year WACC	7.7/7.8%

82. The one-year, four-year term breakdown of the WACC is intended to reflect the fact that four years of the regulatory period remained at the time of the settlement agreement.

4.6.1. Bearing the Financing Risks

83. Transpower proposes that any difference between Transpower's actual financing costs and the capital charge consistent with the WACC should be to the benefit of or cost to Transpower's shareholder. Transpower's shareholder will bear the risks and costs and obtain the financial gains from any financing arrangements it enters into, including from cross-border leases.

4.7. Tax Treatment

84. Taxation to be used in the calculation of the annual revenue requirement and the calculation of the economic gain/loss will be based on a tax payable approach. Deferred tax will not be included in the tax calculation. Tax will not be adjusted to reflect the difference between actual operating costs and the constrained level of operating costs. Nor will tax be adjusted to reflect the pricing year/financial year adjustment made to revenue.
85. Transpower has used the liability method of accounting for deferred tax, applied on a partial basis. As a result, Transpower has not recognised timing differences

- relating to depreciation in its financial statements⁶. The tax calculation used in the economic value statements and the revenue requirement calculation has mirrored the treatment in the financial statements.
86. The treatment used by Transpower is broadly consistent with the tax payable approach that has been adopted by the Commerce Commission.
87. With the adoption of NZ IFRS, Transpower will no longer be able to use the partial basis in accounting for deferred tax for financial reporting purposes. This will result in a significant accumulated deferred tax liability being included on its balance sheet.
88. All other things being equal, Transpower's preference is to maintain consistency between its financial statements, its revenue setting processes and regulatory disclosures. This would suggest changing the basis of accounting for tax in the revenue setting process to tax expense, as opposed to tax payable. Not only would this reduce administration and compliance costs but it also would be a lower risk approach for Transpower⁷.
89. However, for practical reasons Transpower will not, for the time being, adopt comprehensive deferred tax accounting for revenue requirement purpose, notwithstanding that it will cause a divergence between the statutory financial statements and the revenue requirement/regulatory disclosure financial statements.
90. Transpower will continue to adjust tax to reflect the tax benefit Transpower obtains from using debt funding. This adjustment, which is called the interest tax shield, will be based on Transpower's interest expense, and will be equivalent to:
- $$\text{Interest Expense} \times \text{Corporate Tax Rate} = \text{Interest Tax Shield}.$$

4.8. Operating Costs

91. Transpower has based the starting operating cost threshold of \$199.61 million on the forecasts of operating expenditure for the 2006/07 year (Base Opex). The derivation of the 2006/07 operating cost baseline is summarised below:

⁶ The income tax effect of timing differences is only recognised as deferred tax for timing differences not expected to reverse in the foreseeable future.

⁷ All other things being equal, the level of tax depreciation will be greater in the early years of an asset's life compared to later years. Accounting for tax on a tax payable basis means that charges to customers will be lower in early years and higher in later years. The risk to Transpower is that it will not be able to raise prices as the asset ages to ensure a NPV=0 outcome. Any constraints on future prices rising to their required level will result in a suboptimal outcome for Transpower's shareholder. Using a tax expense approach will smooth prices over the asset's life and reduces the risk of resistance to the future price increases that are needed under the tax payable approach.

2006/07 Opex Forecast	2006/07 \$m
<i>Total operating costs – lines business</i>	222.7
<i>Less pass through costs</i>	12.9
<i>Less operating lease costs</i>	8.5
<i>Less contingency allowance</i>	1.69
Base Operating Costs for 2006/07	199.61

92. Transpower's view is that the proposed base operating expenditure threshold represents the likely base amount of operating expenditure required into the future rather than a peak of activity. Transpower is embarking on a significant augmentation of the core transmission system as well as the company's information technology and communications infrastructure and the company's human resource capability and capacity (in both operational and business support functions) which will require continuing expenditure over the period of the reset thresholds.
93. Key drivers for increased costs over recent years have been:
- **A major restructuring of the business** and expansion of core business functions (i.e. grid investment and IT&T) in response to increasing demands on the business. This commenced in 2003/04 to position Transpower with the capability, resources and infrastructure to meet future demands.
 - **New obligations** requiring Transpower to develop skills and increase expertise in several areas of the business, particularly regulatory compliance (both Commerce Commission and Electricity Commission), environmental planning, compliance and risk management.
 - **Significant input cost increases** affecting not only wage pressures for Transpower's employed FTE base but also the cost of materials and third party services. Input costs are forecast to continue to increase beyond the rate of inflation for both labour and material inputs. Coupled with this there is little indication that the constraints around the availability and retention of a skilled workforce will ease over the coming years.
 - **Volume growth** is likely to continue to increase. Transpower's business has had to grow to meet the increasing electricity demands of New Zealand.

94. The Commerce Commission's consultants GHD undertook a desktop review of Transpower's proposed 2006/07 operating expenditure. GHD confirmed that Transpower's proposed expenditure was not unreasonable.⁸
95. Transpower proposes that the base operating expenditure for 2006/07 be adjusted by CPI. The proposed cost path takes account of the expected growth in Transpower's output and the difference between CPI inflation and input cost inflation. No allowance has been made for the expectation by Transpower that its input costs are likely to increase at a greater rate than economy-wide input costs over the period.
96. The escalation of the cost path at CPI will require Transpower to achieve efficiency gains of around 2% per annum. The use of CPI rather than an input cost inflator, incorporates an efficiency factor equivalent to the total factor productivity (TFP) of the economy, ie $\Delta\text{CPI} = \Delta\text{Input Costs}_E - \Delta\text{TFP}_E$ which has been estimated at around 1.1% per annum⁹. To that is added the efficiency gain that Transpower will achieve by meeting expected growth in output (as measured by growth in capacity and throughput) within the cost path.
97. In the following years, in addition to the CPI adjustment, 75% of any savings in administration costs Transpower identifies as resulting from alignment of the regulatory and financial asset books will be returned to customers.

5. Further Explanation of the Transmission (Non-Part F Capex) Threshold

98. Under the transmission (non-Part F capex) threshold, Transpower will be required to demonstrate that capital expenditure not currently subject to an approval requirement by the Electricity Commission under Part F of the Electricity Governance Rules, has not exceed a specified expenditure amount in the relevant year.
99. The transmission (non-Part F capex) threshold for the 2007/08 financial year provides that non-Part F capex will not exceed a total of \$120.7 million. Transpower's non-Part F capex for 2007/08 was reviewed by the Commission's consultant, Strata Energy Limited (Strata).¹⁰ The non-Part F threshold is based on Transpower's 2007/08 Business Plan, adjusted to reduce contingencies and to include an efficiency factor based on Strata's recommendations.
100. Contingency provisions are not included in the Business Plan forecasts for replacement, refurbishment and minor enhancement expenditure, but are

⁸ GHD, *Desktop Review of Transpower 2006/07 Operating Expenditure Proposal*, August 2006.

⁹ See for example the discussion in Dennis Lawrence, *Regulation of Electricity Lines Businesses: Resetting the Price Path Threshold – Comparative Option*, 19 December 2003.

¹⁰ Strata Energy Limited, *Review of Transpower's Capital Expenditure Plans*, May 2007.

- included for IT and communications projects (contingency and management reserves average around 20%). For the purpose of the threshold, Transpower has reduced the contingency allowance for IT and communications projects to 7.5%.¹¹
101. The Business Plan numbers were further reduced to include an efficiency factor: 2.5% was applied to replacement, refurbishment and minor enhancement expenditure; and 1.25% was applied to IT and communications expenditure.
102. The breakdown of the components making up the threshold for 2007/08 is shown in the table below. Transpower notes that while the threshold has been built up from the various expenditure categories, assessment will be against the total threshold, which will allow Transpower to adjust expenditure between categories.

Category	Expenditure 2007/08 (\$)
Asset replacement	29,568,825
Asset refurbishment	10,533,900
Asset enhancement	14,748,825
Subtotal	54,851,550
Telecommunications	20,885,491
Telecommunications – operating leases	34,692,911
SCADA upgrade	3,786,300
Asset management systems – grid	345,625
Real time and stations	2,665,633
Substation capital works	3,487,089
Subtotal	65,429,388
Threshold total	120,714,599

103. The threshold in the following years will be set by the Commission on an annual basis in accordance with the reset principles described in the settlement proposal. If the Electricity Commission introduces procedures for it to approve non-Part F capital expenditure, Transpower will submit such expenditure for approval, and the expenditure threshold will be correspondingly reduced. Transpower and the Electricity Commission are working together to establish a

¹¹ An exception to this is the SCADA project, where no adjustment is made. The SCADA project is near completion so an adjustment is not appropriate.

- process for approving this expenditure. Transpower considers the process is unlikely to be in place in time for the reset of the threshold for 2008/09.
104. The one-year limits on non-Part F capital expenditure will not directly affect the revenue requirement because they relate to expenditure rather than commissioning of assets. Over time, the constraints may affect commissioned capital and therefore affect the revenue requirement. The focus on expenditure rather than commissioning of assets for non-Part F capex has been adopted because of the difficulties that are associated with forecasting the timing of commissioning, and the impact this might have on the likelihood of breaching the threshold because of forecast errors.
 105. Under the threshold Transpower also commits to pursue proactively options for improving its non-Part F capital works processes around (a) procurement audit; (b) review of open book tendering for replacement and refurbishment expenditure; and (c) Project Approval Document (PAD) templates. Transpower notes that in undertaking this work, it will review the suggestions for improvements in Transpower's processes made by Strata in its report prepared the Commerce Commission.
 106. Transpower has included force majeure and security of supply event clauses into the transmission (non-Part F) threshold to ensure that Transpower does not have to report a breach of the threshold, where the breach is for reasons that are outside its control.

6. Further Explanation of the System Operator Services Threshold

107. The System Operator business operates separately from the transmission services business, with its revenues determined in an entirely different manner through a fixed price contract (the SOSPA) with the Electricity Commission. Transpower cannot unilaterally adjust the price it charges the Electricity Commission under the SOSPA in response to changes in its cost base for, or desired return on investment from, the System Operator business.
108. It would not be possible to readily incorporate the System Operator function into the threshold applying to the transmission services business. Thus, Transpower has proposed a separate threshold that is based on the existing contract terms. Under the SOSPA contract, Transpower as System Operator is required to keep prices fixed in nominal terms (i.e. it effectively faces a CPI-CPI constraint on prices) unless a fee change event is triggered under clause 5 of the contract or the Electricity Commission and Transpower agree to amend prices set under the contract. Fee change events are events that have an impact on the System Operator's operational requirements and costs (such as changes to the Electricity Governance Rules), and have no logical connection to changes in the CPI. Given the fixed price nature of the contract, Transpower has strong incentives to minimise its costs.

7. Compliance

7.1. Transmission (Revenue Requirement) Threshold

109. Transpower proposes submitting a compliance statement at the end of September for the preceding financial/pricing year. Transpower will demonstrate that it has (or has not) complied with the transmission (revenue requirement) threshold in setting its revenue requirement, and that the forecasts of the relevant building blocks were based on the relevant business plan information, and that the constraints imposed by the threshold have been correctly applied.
110. Transpower notes that the proposed three month reporting period is required because of the time taken to obtain audited financial accounts (generally not available until late August). It is likely to take an additional month to prepare the EV accounts (which draw on the audited financial accounts) and the compliance statements.
111. Transpower will also demonstrate that it has made appropriate adjustments ex-post through the EV accounts to ensure that over or under-recovery resulting from variances between outturns and forecasts are treated appropriately through the EV adjustment process.
112. Transpower's compliance reporting will report on both the ex ante revenue setting as well as the preparation and disclosure of annual economic value statements, including accompanying explanatory notes.

7.2. Transmission (Non-Part F Capex) Threshold

113. Each year that the transmission (non-Part F capex) threshold applies, Transpower will report compliance on an annual basis at the end of September.

7.3. System Operator Services Threshold

114. In September each year, Transpower will report the system operator revenue received under the SOSPA against the revenue provided for in the contract, for the preceding financial year ended 30 June.
115. Transpower proposes that the allocation of costs to the System Operator function should continue to be audited as part of the lines information disclosure.

7.4. Quality Performance Reporting

116. Transpower will continue to report its quality performance annually, following the format it has used in the past.
117. Transpower's view is that the quality threshold is no longer required given the forthcoming Benchmark Agreement and Interconnection Rules overseen by the Electricity Commission (effective 1 April 2008). The Benchmark Agreement and Interconnection Rules will create an extensive set of service measures that will

- apply to Transpower. These measures encompass all aspects of the quality of the service provided by Transpower. Whilst not all of these measures will be “enforceable” or fully reported on to all consumers, the introduction of the new commercial arrangements will impose additional quality reporting and monitoring obligations on Transpower.
118. Nevertheless because the Commerce Commission wishes to retain the quality threshold, for the time being at least, Transpower has proposed that it continue to apply. However, Transpower understands that, as part of the consultation on the administrative settlement, the Commission will seek interested parties' views on whether the quality threshold in its current form should continue to apply to Transpower.