

TRANSPower NEW ZEALAND LIMITED

Submission to the
Commerce Commission
on the
Intention to Declare Control
of Transpower

February 2006

TRANSPower



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1 EXECUTIVE SUMMARY

1.1 Introduction

1. Transpower strongly disputes the Commerce Commission's ("the Commission's") reasoning and analysis set out in its Report "Regulation of Electricity Lines Businesses Targeted Control Regime Intention to Declare Control Transpower New Zealand Ltd", 27 January 2006 ("Commission's Report" or "Report"). In Transpower's view, the Commission cannot be satisfied that Transpower's conduct to date warrants control by reference to section 57E of the Commerce Act or that there are long term net benefits of control. Therefore, in Transpower's view, control should not be imposed.
2. There are two main claims which underpin the Commission's analysis and its assessment of substantive benefits from control:
 - Transpower has been earning excess profits since 2004/05, and will continue to do so in the future; and
 - There are substantial, and in the context of the Commission's analysis, overwhelming benefits from imposing control due to:
 - the investment efficiency gains (both in terms of cost and timing) that would result;
 - efficiency gains from better matching the time profile of prices to the underlying pattern of investments; and
 - a reduction in the excess profits Transpower could extract.
3. Transpower believes that the evidence presented by the Commission does not support these claims.
4. Transpower's view is that the price increases which gave rise to its threshold breaches and its proposed future increases can be "explained" when regard is had to the whole of the circumstances relevant to its pricing. This submission sets out the building block movements which

underpin Transpower's price increases and demonstrates that Transpower is not earning, and will not earn, excess profits.

1.2 Transpower has not Earned Excessive Profits

5. Transpower has to date filed three threshold compliance statements under the targeted control regime. These identified Transpower as having breached the Commission's CPI-X price path threshold at the first, second and third assessment dates (6 September 2003, 30 June 2004 and 30 June 2005) by \$2,372,917, \$67,903,194 and \$43,224,645 respectively.
6. Adjusting for volume growth and Transpower's economic value ("EV") adjustments, the Commission identifies \$14.3m and \$35.8m¹ of the breaches as being "unexplained" for the 2004/05 and 2005/06 pricing years respectively. The Commission concludes that Transpower is likely to have been earning excess profits from the 2004/05 pricing year.
7. Transpower considers that the Commission has not, and cannot, substantiate this claim. In Transpower's view:
 - The Commission has erred in its analysis, as an unexplained threshold breach does not necessarily constitute an excess profit;
 - Transpower's building blocks based pricing methodology explicitly targets zero excess returns over time, and an assessment of Transpower's return on investment ("ROI") against its weighted average cost of capital ("WACC") demonstrates that Transpower has not earned excessive profits; and
 - The price increases (and their timing) which caused Transpower to breach the thresholds are justified by necessary and efficient increases in Transpower's building block costs.

¹ Transpower believes that there are inconsistencies in the analysis underpinning this figure, which as a result is overstated by \$17m. The basis for this conclusion is set out in Appendix 2 of this submission.

8. The Commission has assumed the price path threshold is a proxy for efficient transmission prices and that "unexplained" breaches are indicative of excess profits.
9. Not only is this approach inconsistent with the Commission's established approach to determining efficient prices, it is also inconsistent with previous Commission statements: accepting that there is no onus on a large electricity lines businesses ("LELB") in a post-threshold-breach inquiry to establish why it should not be subject to control²; that "the thresholds are not required to be a 'proxy' for LELBs that are extracting excess profits or are inefficient or are not sharing efficiency gains"; and that "the thresholds are not required to stand in place of the rest of the statutory process for determining whether a LELB should be subject to control".³
10. The price path threshold in the targeted control regime has been designed to be a "screening mechanism" or a "selection tool" to enable the Commission to identify LELBs for further "targeted" inquiry. The price path threshold is, by its very nature, over-inclusive and catches "false positives" i.e. LELBs which, on further analysis, do not require control.⁴
11. The price path threshold for Transpower is based on Transpower's prices at the start of the threshold regime. No calibration was undertaken and, consequently, the thresholds impute nothing about the efficient level for transmission prices. The Commission itself has emphasised on a number of occasions that "a breach of the thresholds does not necessarily mean that the behaviour of the business is inconsistent with the purpose

² Unison Networks Limited v Commerce Commission (Wild J 28 November 2005 Wellington Registry CIV 2004 485 960), paragraph 69.

³ Unison Networks Limited v Commerce Commission (Wild J 28 November 2005 Wellington Registry CIV 2004 485 960), paragraph 97.

⁴ Unison Networks Limited v Commerce Commission (Wild J 28 November 2005 Wellington Registry CIV 2004 485 960), paragraph 61.

statement".⁵ Given this, it is not appropriate for the Commission to conclude that Transpower may have earned excess profits simply by reference to actual and threshold prices.

12. Transpower's approach to revenue setting was developed under a self-regulatory environment and was designed explicitly to ensure that Transpower earns zero economic profits (i.e. no excessive profits accrue).⁶
13. Transpower's application of this "EV neutral" approach is not acknowledged in the Commission's Report. Similarly, Transpower's rigorous treatment of asset optimisations, asset revaluations and return of economic gains applied consistently over time to ensure that over recovery does not occur, is also ignored.
14. Transpower's approach is closely aligned with the building-blocks based analytical framework for assessing economic returns outlined in the Commission's Assessment and Inquiry Guidelines⁷ and applied in its Unison inquiry, and in its control inquiries under Part IV (airports and gas pipelines).
15. Transpower applies its building blocks approach to price setting in the same way that the Commission has applied the approach in other control inquiries and/or has indicated would apply under control. As a result, the price path under the factual is highly unlikely to be lower than the counterfactual (particularly given that the costs of control and the use of a higher "control WACC" would increase revenue requirements under the factual).

⁵ Commerce Commission, "Regulation of Electricity Lines Businesses – Discussion Paper", 21 March 2002, p 109.

⁶ Sections 3 and 4 discuss in more detail the background to the development of Transpower's pricing methodology.

⁷ Commerce Commission, "Regulation of Electricity Lines Businesses Targeted Control Regime Assessment and Inquiry Guidelines", 19 October 2004.

16. Transpower's increased revenue requirements (and associated prices) which resulted in the past threshold breaches reflect necessary and efficient increases in expenditure from a historically low base. The largest cost increases result from investigating options for future major grid investment, increased regulatory costs, other preparatory costs for future investment (including building of support functions within Transpower), the introduction of a single contract for system operator services and higher insurance premiums. More details are provided in Section 5 of the submission.

17. Looking forward, the planned 19% price increase which is to take effect from 1 April 2006 reflects higher operating capital and a higher WACC, increases in operating expenditure and associated increases in depreciation and taxation. Increases in operating capital include the cost of property acquired in preparation for the new 400kV transmission line from Whakamaru to Otahuhu. (This accounts for ca. \$4m of the revenue requirement increase or less than 1% of the 1 April 2006 price increase). Transpower has continued with prudent preparatory work for this project in advance of receiving formal Electricity Commission ("EC") approval,⁸ but with the explicit support of both the Minister of Energy and the EC itself. It is stressed that capital costs for the construction of the new 400kV line are not a contributor to the 19% increase. More details are provided in Section 6 of the submission.

18. Looking further out, Transpower has indicated that future price increases could average 13% over the five year period to 2011. This is simply an estimate based on the assumption that the EC will approve Transpower's proposed future capital projects. If EC approval is given, future price increases would be driven primarily by higher capital charges⁹ (and associated tax charges) as a result of an increasing asset base. However,

⁸ In respect of this project, applications for EC approval have been made but not yet received for: (a) interim grid expenditure relating to property acquisition costs; and (b) full project approval as part of the 2005 Grid Upgrade Plan.

⁹ The pre-tax capital charge = (average operating capital employed * WACC)/(1-tax rate).

it is stressed that these future price forecasts are predicated on receiving the appropriate regulatory approvals.

19. Transpower has the necessary business controls and processes in place to ensure that it operates efficiently and in accordance with good international industry practice. These processes and controls are outlined in Section 7 of this submission.
20. In addition, Transpower uses benchmarks to monitor cost and service trends. The overall composite benchmark from the International Transmission Operations and Maintenance Study (ITOMS) ranks Transpower as an above average performer against twenty other international transmission service providers. Similarly, benchmarking of Transpower's operating expenditure with Australian transmission network service providers (TNSPs) shows that Transpower's operating expenditure is not out of line with this peer group. These results are also discussed in Section 7 of this submission.
21. Moreover, despite the higher loadings on the network and ageing asset base, Transpower's overall service quality performance has been maintained and, with one exception (the 2004/05 HVDC outage due to repair of Cook Strait cables), all system performance targets in the Statement of Corporate Intent have consistently been met, or bettered over the past five years.
22. While the current reliability of the national grid is high, over the next decade substantial investment is required to ensure that the grid efficiently meets the projected growth in demand for electricity. This process is already well underway with a major programme of tactical upgrades to maximise utilisation of the existing grid assets.
23. The Commission's price path threshold for Transpower was set arbitrarily both in terms of timing and as to level, and most importantly ahead of, and without regard to, this investment programme. The initiation of the threshold coincided with the cyclical low in average transmission prices.

24. Transpower has previously pointed out to the Commission, the limitations of the threshold regime in concept, the inability of an X-factor of 1% to accommodate the step change in grid investment that is anticipated, and the inevitability of future threshold breaches. However, notwithstanding a vast body of important contextual comment pointing out these issues, the Commission has instead sought to focus in its Report on Transpower's past pragmatic acceptance of a CPI-1% threshold, applied as a screening mechanism, as supposedly implying Transpower's past acceptance of the Commission's regime.
25. The Commission has, in its Report, taken the view that expenditure for the tactical transmission upgrade projects ("TTUs") is not a mitigating factor for the breaches of the threshold. Transpower believes this conclusion results from the Commission's approach of assessing Transpower's behaviour against the thresholds as a proxy for the efficient price, rather than using a building block approach. This is discussed further in Section 4.
26. In summary, Transpower considers that the Commission's analysis fails to demonstrate that Transpower has earned excess profits or that any section 57E purpose statement concerns otherwise exist. Accordingly, the Commission's inquiry should end.

1.3 The Commission Overstates the Benefits of Control

27. Having completed its review of Transpower's past behaviour, the Commission proceeds to examine the potential net benefits to consumers from imposing price control. In Transpower's view, the Commission's forward looking analysis is overly simplistic and is founded on a number of assertions that are without a factual basis. As a result, the Commission has overstated the potential benefits of control and understated the potential costs of control.

1.3.1 Investment Efficiency Benefits

28. The key benefits of control identified by the Commission relate to investment efficiency gains and improved investment timing which the Commission suggests will result from the application of the Grid Investment Test ("GIT") and the other elements of the Part F investment approval process overseen by the EC. The Commission also suggests that the timing of recovery of the cost of investment could be improved by control.
29. In Transpower's view none of the investment efficiency benefits claimed by the Commission will result from the imposition of price control. Each of these benefits hinges on a difference existing between the factual and the counterfactual in respect of the role of the EC and the operation of the EGRs, and thus in the pattern of future transmission investments. No factual basis has been put forward from which such a conclusion can reasonably be drawn.
30. The claim that the Commission will enhance the efficiency of investment by imposing control is not consistent with the respective expertise of the EC and the Commerce Commission and with Transpower's accountability arrangements. First and foremost, the Commission's analysis implies that the role of the EC under Section III of Part F is to determine the final timing and cost of transmission investments. Transpower disputes this. The role of the EC is to approve or reject investments submitted by Transpower, on the basis of those investments satisfying, or not, the GIT. It is not the role of the Commission to determine the technical nature or dictate the precise timing of transmission investment.
31. The Commission's claim of efficiency benefits implies that control by the Commission is required to ensure the appropriate application of the EGRs and that the regulatory decisions of the EC would not otherwise be able to be enforced. Even if there was a factual basis to suggest that the EGRs were not being complied with appropriately, using control in this way,

would be an unusual and inappropriate application of the Commission's regulatory powers.

32. If there are concerns about the operation of the EGRs and the associated enforcement mechanisms, these should be discussed and addressed explicitly within that regulatory framework. It is highly improbable that enforcement of investment oversight by one regulatory body through price control by another regulatory body would lead to either consistent or efficient outcomes.
33. Before seeking to recover the costs of future transmission investments from customers, Transpower will seek EC approval in those circumstances where such approval is required by the EGR regulatory processes.
34. Transpower has sought to achieve clarity on when approval might be appropriate, both in a transitional context and on a forward looking basis, through ongoing dialogue with the EC. Transpower's understanding is as follows:
 - For the transitional provisions, the EC favours a test for approval using a definition of investment which is above "normal" ongoing grid expenditure based on historical measures of capital expenditure;
 - The EC accepts that expenditures which should be approved under the grid update plan ("GUP") as reliability or economic investments are restricted to "enhancement and development" capital expenditures.¹⁰ In reaching this agreement with the EC, "refurbishment and replacement" grid capital expenditure, IT and minor asset investment, and all forms of operating expenditure were explicitly excluded from the ambit of EC approval;¹¹

¹⁰ This is Transpower's terminology and includes investments to increase the service capability of the grid either by upgrading existing assets or building new assets.

¹¹ "Process and Content of Grid Upgrade Plan (GUP)", Letter from Roy Hemmingway to Dr Ralph Craven, 14 September 2005.

- The clear intent of the EGRs is that, subject to Part 4A, Transpower is to recover the full economic costs of providing transmission services. Given the EC's view that not all expenditure requires approval, Transpower must be able to recover costs for such investment provided section 57E purpose statement concerns do not arise;
 - Accordingly, Transpower understands the EC's view to be that the role of its approval is to confirm that proposed capital expenditure is reasonable and efficient and that approval then provides "evidence" that such expenditures, and hence the associated increases in transmission charges, are reasonable and efficient when Transpower is seeking to explain a threshold breach to the Commission.
35. Transpower has proceeded on the basis of these understandings as they have evolved through discussions with the EC. For example, Transpower reversed its initial decision not to seek EC approval of the Tactical Transmission Upgrades ("TTUs"). Despite EC approval of the TTUs, the Commission has determined in its Report that the TTUs are not an appropriate mitigating factor for a threshold breach.
36. It is Transpower's submission that this example illustrates that one of the Commission's concerns which has arisen because of the lack of a clear regulatory framework, and seeming lack of coordination, between the operations of the two Commissions.
37. Transpower is more than willing to adhere to a clear and logical set of rules and regulations. Transpower believes that a clear intent of the present regulatory regime is that EC approval should be sought for "reliability and economic investments". Not to seek approval, in circumstances where approval is clearly intended, would put at risk Transpower's ability to recover its investment costs. Further, not to seek consent would be contrary to Transpower's statement of corporate intent ("SCI"). There is no incentive for Transpower to do so. Thus, Transpower

fully intends to seek such appropriate investment approvals from the EC irrespective of whether or not the Commission imposes control.

38. One possible reason for the Commission assuming that control would improve investment efficiency is that the Commission may have assumed that Transpower intended to proceed with the programme of capital expenditures leading to the forecast 13% of average price rises over the next five years, irrespective of any EC approval decisions. If so, then this would be a misunderstanding. As discussed above, Transpower's indicative future prices reflect its current forecast of future expenditures.¹² Over time, actual investment expenditures and hence prices, will adjust to reflect inter alia, the EC's regulatory investment approvals.
39. The Commission's view may also have been influenced by the process followed for the North Island 400kV grid upgrade project. Transpower observes that the circumstances of this project represent a "one-off" scenario that reflects unique timing constraints and other transitional factors. It would be inappropriate for the Commission to extrapolate Transpower's future behaviour from the approach taken to this project. Moreover, Transpower notes the Commission has not acknowledged the quite specific directive from the Minister of Energy¹³ to continue with preparatory work while the EC was conducting its investigation of Transpower's proposal, as well as similar support from the EC.¹⁴ It would be similarly inappropriate for the Commission to determine to impose control (both as to the need for control and any benefits of control) by reference to this project. Projects such as the proposed HVDC upgrade and the assessment of the need for a South Island upgrade project are more indicative of Transpower's future behaviour in relation to Part F.

¹² Set out in the 2005 Grid Upgrade Plan.

¹³ "Independent assessment of proposed grid upgrade", Hon Trevor Mallard, 13 April 2004.

¹⁴ "Progress and Content of Grid Upgrade Plan (GUP)", 14 September 2005, Letter from Roy Hemmingway to Dr Ralph Craven.

40. Given Transpower's intention to seek EC approval as required, Transpower disputes the Commission's conclusion of significant net investment efficiency benefits between the factual and the counterfactual.

1.3.2 Improved Timing of Cost Recovery

41. The Commission suggests that control is likely to improve the time profile of prices relative to investment, and that the resulting benefits could be significant. Transpower does not accept this contention.
42. Transpower treats investigation and preparatory work in relation to investments as an expense which is recovered when it is incurred in line with normal accounting practice.¹⁵ While annual price increases are necessarily based on a forecast of capital expenditure,¹⁶ investments only enter the regulatory asset base once they have been commissioned, in line with ODV Handbook requirements.¹⁷
43. Delaying the recovery of operational costs, or the return on investments to later periods would mean that Transpower would earn less than its cost of capital in the short term and would have to earn more than its cost of capital in the future. Notwithstanding the regulatory risks involved in such a regime, it is difficult to see why the resulting profile of prices would be more efficient than adherence to the building blocks approach on a period by period basis.
44. Of course, it is possible that the Commission is arguing that Transpower is generally undertaking preparatory and investigation work too soon and

¹⁵ Financial Reporting Standard No 3.

¹⁶ Average operating capital used to set the capital charge is determined by the mean of the opening and closing operating capital balances. Given the relative timing of Transpower's revenue setting and pricing periods, these operating capital balances must be based on forecasts of capital expenditure. To the extent that forecasts are in error, the resulting over or under recovery flows through to the economic value (EV) customer account balances.

¹⁷ Transpower believes that it should be allowed to bring works under construction into the asset base to relieve balance sheet pressures during the period of intense construction. However, it will not do this unless the approach is approved by the Commission.

that the imposition of control would delay such work, and that this would result in a preferred pricing profile. This would be contrary to the EC's recognition that a substantial amount of preparatory work is required before Transpower can submit a large project for approval to the EC.¹⁸ It is also difficult to understand how this proposition would in general be true or efficient. Indeed the contrary may well be the case. In any event, no evidence is presented to support this argument.

1.3.3 Benefit from Eliminating Excess Profits

45. The Commission also claims as a benefit the removal of excess profits in future years. As discussed earlier, the Commission has not demonstrated that Transpower has earned excess profits or that it will earn such profits in the future. Without undertaking a detailed assessment of Transpower's planned future price increases using building blocks analysis, the Commission cannot reasonably conclude that Transpower will accrue excess profits in the absence of control.

1.4 The Costs of Control are Understated

46. The Commission has not attempted to quantify the potential indirect costs of control. Transpower anticipates that the indirect costs of control would be substantial and would offset the benefits that the Commission has assessed from improved investment efficiency (related to costs and timing), if such benefits could be demonstrated to exist.

47. The Commission's estimates are based on the indicative benefits of incremental investment deferrals and costs savings (of up to three years and 10% of costs respectively).

48. The Commission's approach appears to assume not only that the EC has the ability to dictate the nature and timing of transmission investments, but that the EC would make such decisions with perfect foresight and that the

¹⁸ "Process and Context of Grid Upgrade Plan (GUP)", 14 September 2005, letter from Roy Hemmingway to Dr Craven.

investment timings proposed by Transpower would be wrong consistently. However, the appropriate timing of investment (and investigation work) is a matter of fine judgement. Neither the EC nor Transpower has a monopoly on wisdom in these matters. The Commission has no reason to assume that in all circumstances deferral would be optimal from an efficiency perspective.

49. The Commission's analysis assumes there would be increasing benefits from delaying investment by one or two or three years. Logically this would imply that there would be even greater benefits from deferring investment for five or ten years. Similarly, there would be greater benefits by cutting investment costs by more than 10%.
50. However, this simplistic analysis ignores the fact that delaying investment can impose significant costs in terms of demand not served or the need to use alternatives to the grid, such as emergency generation, that are much more expensive. The asymmetry between the high costs of unduly delayed investment compared with the possible cost savings from such delay is widely recognised. Given that the regulatory arrangements are already biased towards delaying investment (the EC can only delay investment; it cannot bring it forward), and the fact that Transpower does not have incentives to invest too early, on balance investments are likely to be undertaken too late rather than too early. Further regulatory constraints that add to investment delays are likely to have significant negative efficiency costs, including threatening consumers' desire to enjoy a fully reliable electricity supply.
51. Delaying the recovery of costs may also increase Transpower's cost of capital. If Transpower is prevented from recovering significant costs, or such recovery is deferred or uncertain, Transpower's borrowing requirements will increase, potentially affecting its credit rating. The result would be an increase in funding costs. Indeed these pressures are already

apparent.¹⁹ These higher costs are not included in the Commission's factual.

52. If the Commission's thesis is that investigation and preparatory expenditure should not be recovered until final approval for a project is granted then this raises questions over the incentives and risks borne by Transpower in investigating and planning the need and potential for grid investment. The incentive under such a rule would be to delay investigation and preparatory work until final approvals were granted. This would either delay investments and/or require approvals to be sought further in advance of the need. Either behaviour would be likely to reduce the efficiency of investment timings and in the extreme case lead to investment not being in place when it is needed.

1.4.1 Summary of the Net Benefits of Control

53. In summary, Transpower disagrees with the Commission's assertion that declaring control would provide Transpower with greater incentives to improve its efficiency and to make efficient investments in the grid.
54. The Commission has not undertaken a building blocks analysis to validate its assertion that Transpower has earned excess profits in the past or will earn such profits in the future. Instead, the Commission has simply projected Transpower's past "unexplained" threshold breach into the future.
55. The vast majority of the additional benefits of control estimated by the Commission are in fact benefits that, if they happen at all, will result from the Part F approval process irrespective of any imposition of control by the Commission. The Commission has not identified why control is a necessary prerequisite to achieve these outcomes from an independent regulatory regime. In fact, inappropriate and poorly coordinated

¹⁹ The effects of regulatory uncertainty and concerns over investment funding have already contributed to a downgrading of Transpower's credit rating, and that lower rating being placed on negative watch.

intervention by the Commission is likely to undermine the workings of the regulatory regime being implemented by the EC. While Transpower has identified many imperfections with the EGRs and the application of the EGRs, none of these could be sensibly addressed through the intervention of the Commission.

56. In addition, the Commission has failed to adequately assess the potential costs of control.
57. Accordingly, the Commission cannot be satisfied that the imposition of control would be in the long term interests of consumers.
58. Having argued against the case for control put forward by the Commission, Transpower also wishes to highlight a number of other considerations relevant to any further Commission inquiries and/or other regulatory developments. Moreover, there are aspects of Transpower's behaviour which are explicitly or implicitly criticised by the Commission, to which Transpower wishes to reply.

1.5 Other Concerns

1.5.1 Criticisms of Transpower

59. While not central to the case put forward by the Commission, there are a number of aspects of Transpower's recent behaviour which have been criticised in the course of the Commission's Report and analysis that Transpower wishes to respond to.
60. An important (but not quantified) cost of the current threshold regime is the scope for ongoing reputational damage attendant on being investigated for threshold breaches which may, or may not, prove, in time, to be fully justified and appropriate. Equally, the present submission process is an opportunity for further reputational damage to be incurred, which will be heightened if certain claims are not countered.

61. The Commission places significant emphasis on the fact that Transpower has not explained satisfactorily its threshold breaches. Prior to publication of its intention to declare control, there was no formal opportunity for Transpower to explain its threshold breaches. Although Transpower provided an explanatory memorandum in relation to each of its breaches, the Commission did not seek further clarification of the explanations other than by way of its section 98 notices. To the extent that the Commission has not been satisfied with Transpower's explanation of its price increases, this submission sets out further explanation and justification. The submission draws heavily on the significant volumes of information provided to the Commission in the course of 2005.
62. In a related statement, the Commission notes that a previous offer by Transpower to publish information as to why its CPI -1% threshold should be reset upwards by 7 to 10% had not been followed up. Transpower acknowledges that this is correct.²⁰ However, it should be noted that in addressing Transpower's suggestion the Commission made it clear that the relevant process for any assessment was ex post, i.e. following receipt of a threshold compliance statement. Moreover, in the same correspondence,²¹ the Commission announced its intention to initiate its post-breach inquiry, including commencement of information requests under a Section 98 notice. Under this post-breach inquiry process, the Commission was clear that new documents were not to be generated. Similarly, offers by Transpower to engage in further explanatory dialogue were not accepted.

²⁰ Comparable information is now contained in the 2005 Grid Upgrade Plan which includes details of currently expected requirements for capital investment and operating and maintenance expenditures.

²¹ "Transpower Post-Breach Inquiry and Resetting the Thresholds", Letter from the Chair of the Commission to Dr Ralph Craven, 27 January 2005.

1.5.2 Regulatory Uncertainty

63. As commented on above, the absence of a clear regulatory framework, and the scope for a lack of co-ordination between the operation of the two Commissions remains a major concern for Transpower. It would, in Transpower's view, be inappropriate to use regulatory uncertainty, in particular uncertainty deriving from the transition to, and evolution of, a new regulatory regime, as a basis for further regulatory intervention by way of control.
64. Government clearly recognised the risk of a lack of coordination in the roles of the two Commissions. In its GPS²² published in October 2004 Government requested "...the two Commissions to develop and publish a Memorandum of Understanding on how they propose to operationalise the coordination of their respective roles...".
65. Transpower continues to be confounded by the absence of such an MoU, and has suffered directly from the lack of clarity arising from the failure of the Commissions to address this basic requirement.

1.5.3 Deficiencies in the Current Regulatory Model

66. Greater clarity as to the operation of the framework would have avoided most of the conclusions being drawn by the Commission from which it assesses potential benefits of control and would undoubtedly have removed some of the uncertainty under which Transpower has operated over the past two years. However, the clear deficiencies in the present regulatory framework, including the threshold regime, would ultimately remain, notwithstanding the Commission adhering to the requirements of the GPS and agreeing and publishing a meaningful MoU with the EC.
67. Leaving aside the Commission's view of the TTUs, the Commission's approach presumes that there is a useful and unambiguous distinction that can be made between expenditures which are accommodated by a "CPI-

²² Government Policy Statement on Electricity Governance, October 2004.

X%” price threshold (which the Commission seems to believe accommodates expenditure to meet “volume” growth) and other expenditures (with unspecified characteristics presumably not volume growth related) which justify exceeding the threshold. How the Commission distinguishes investments that should meet the threshold and those that justify exceeding the threshold remains unclear.

68. Transpower has always rejected the concept that a distinction of this kind can be meaningfully or unambiguously drawn. In Transpower’s view, the most effective transmission regulation involves the regulator examining the overall expenditure requirements for the business, holistically, based on an understanding of the relevant cost drivers, service standards and other environmental factors.
69. As conventionally practiced in other comparable regulatory jurisdictions, this involves the ex ante application of a building block based assessment to future expenditure requirements to establish an agreed and enforceable revenue requirement.
70. Transpower has previously warned against attempts to simplify the approach to transmission regulation by assuming away the complications of defining the transmission service, and adopting the apparent simplicity of a price threshold.
71. At its most fundamental level, Transpower is of the view that the Commission has failed to develop a regime or regulatory approach attuned to the nature of the transmission market. The risks were summed up in the following from Transpower’s oral submission to the Commission in March 2003.²³

²³ Transpower, “Oral Submission to the Commerce Commission: Regulation of Electricity Lines Businesses”, 12 March 2003 quoted from private correspondence to Transpower from William W. Hogan, Lucius N. Littauer Professor of Public Policy and Administration at the John F. Kennedy School of Government at Harvard University.

“...the simplicity of CPI-X is appealing and we hope that this approach will help provide the right incentives for management to spend its money wisely by disconnecting revenue recovery from investment costs. However, the simplicity of this regulatory approach carries with it the liability that in order to craft a workable pricing regime that comes even close to providing the incentives needed, it becomes essential to define the product or service in a way that matches reality. In most discussions of CPI-X this product definition problem is assumed away or set aside as too hard. However, without a proper definition of the product or service, the pricing regime will provide incentives to provide what is defined rather than what is valued. Then, when the simple "mechanistic" approach does not work, we will soon find ourselves faced with the need to look in detail at the operations and investments of the regulated entity. Hence, without a good definition of outputs, the simplicity of CPI-X is illusory, and a flawed price control regime may introduce new problems without adding any real benefits.”

1.6 Timing of Submissions

72. Transpower has prepared its response in accordance with the Commission's timetable. However, Transpower believes the time allowed for submissions to be unreasonably truncated and has proposed what it believes to be a reasonable timetable.²⁴
73. The timetable for Transpower's response was set before the publication of the Commission's Report. There has been ongoing correspondence between the Commission and Transpower detailing Transpower's concerns over the reasonableness of the timetable. In that correspondence, the Commission expressed the view that following publication of its Report, Transpower would accept a shorter period than it

²⁴ “Commerce Act (Intention to Declare Control: Transpower New Zealand Limited) Notice 2005”, February 2006.

(Transpower) proposed as adequate to prepare its submissions. Transpower does not accept this view; it overlooks the necessity for Transpower to prepare and submit on the Commission's reasons in its Report, and on other matters which are relevant to the discussion on possible imposition of control. The matters canvassed by the Commission's Report are wide-ranging and complex. Given that the consideration of possible imposition of control is an issue of the highest importance to Transpower, to the industry, and to consumers, more time ought to have been allowed for the preparation of submissions by all interested parties.

1.7 Conclusions

74. Transpower considers that the Commission's backward looking analysis has failed to demonstrate that any section 57E purpose statement concerns exist. The Commission has misapplied the price path threshold as a proxy for efficient prices, and as a result its assertion that Transpower is earning excess profits is unfounded. An assessment of Transpower's ROI against WACC indicates that Transpower has not earned excess returns. Nor has the Commission presented any analysis that would indicate that the price increases which caused Transpower to breach the price path threshold are reflective of anything other than necessary and efficient increases in expenditures. The evidence put forward in support of this submission demonstrates that such cost increases are to be anticipated in the context of Transpower's historical pricing and its expectations as to future investment. Accordingly, the Commission's inquiry should end with a decision not to declare control.
75. Transpower considers that the Commission's forward looking net benefits analysis is too simplistic and is founded on a number of assertions that are without factual basis. As a result, the Commission has overstated the potential benefits of control and understated the potential costs of control. Accordingly, Transpower considers that the Commission cannot be

satisfied that imposing control would be in the long-term interest of consumers.

76. If, having read this submission, the Commission should seek to assess Transpower's pricing behaviour on any other basis than that outlined in the Commission's Report, it is not open to the Commission to make any determination of control unless such assessment has been the subject of further consultation as required by Section 571.

2 INTRODUCTION

77. Transpower is a state-owned enterprise ("SOE") which owns and operates New Zealand's high voltage electricity transmission network known as the "national grid". The national grid transmits electricity from generators to distribution companies and large industrial users.

78. As a large electricity lines business, Transpower is subject to the targeted control regime administered by the Commission under subpart 1 of Part 4A of the Commerce Act 1986 ("Act").

79. The purpose of subpart 1 of Part 4A is set out in section 57E as follows:

"The purpose of this subpart is to promote the efficient operation of markets directly related to electricity distribution and transmission services through targeted control for the long-term benefit of consumers by ensuring that suppliers:

- (a) are limited in their ability to extract excessive profits; and
- (b) face strong incentives to improve efficiency and provide services at a quality that reflects consumer demands; and
- (c) share the benefits of efficiency gains with consumers, including through lower prices."

80. On 6 June 2003, the Commission set a "CPI - X" price path threshold ("initial price path threshold") and a quality threshold to apply to Transpower under the targeted control regime. These thresholds were subsequently reset as at 30 June 2004 and 30 June 2005 for a period of one year. The thresholds will be reset as at 30 June 2006.

81. Transpower is required to submit to the Commission a written self assessment against the thresholds for each specified assessment date, known as a threshold compliance statement.

82. Transpower's threshold compliance statements for each of the first, second and third assessment dates (6 September 2003, 30 June 2004

and 30 June 2005 respectively) identified Transpower as having breached the price path thresholds during the relevant periods.

83. In November 2005 Transpower advised its customers, in accordance with the notice period required by its standard contract terms, of prices for the pricing year commencing 1 April 2006.
84. On 23 December 2005 the Commission published in the New Zealand Gazette notice of its intention to make a declaration of control under Part 4A of the Commerce Act ("Act") in respect of the transmission services supplied by Transpower. On 31 January 2006 the Commission published its Report setting out the Commission's reasons for forming that intention and inviting interested persons to give their views. On the same date, the Commission released, in conjunction with its Report, a paper by NZIER titled "Transpower Post-Breach Inquiry Analysis of Further Breaches" ("NZIER Report").
85. The Commission's preliminary view presented in its Report is that control of Transpower's transmission services would be consistent with the purpose of the targeted control regime set out in section 57E of the Act (the "Purpose Statement"). In particular, the Commission considers that there is credible evidence that:
 - Significant portions of Transpower's breaches remain unexplained, therefore Transpower's April 2004 price increase was unjustified and Transpower is likely to have been earning excessive profits since that increase;
 - Transpower's approach to the investment approval process under Part F has resulted in outcomes inconsistent with the objectives of the regulatory regime;
 - Transpower's planned price increases would enable it to pre-fund its unapproved capital expenditure programme; and

- The time profile of Transpower's prices is not consistent with the underlying pattern of capital expenditure, and its planned April 2006 price increase is not justified.
86. The Commission therefore considers that control would reduce the likelihood of:
- Transpower's investment proposals being less efficient than other transmission investment options, or alternatives to transmission projects;
 - Investments in transmission assets being scheduled and undertaken before it is optimal to do so;
 - Investments not being implemented at least cost;
 - The time profile of prices being inconsistent with the underlying pattern of investments; and
 - Transpower extracting excess profits.
87. Transpower disagrees with the Commission's assessment and with each of these conclusions. Transpower is of the view that it is not currently extracting excessive profits and that each of its price increases in April 2004 and April 2005 (which caused it to breach the price path thresholds set by the Commission) and its announced prices for the 2006/07 pricing year are consistent with the purpose statement of Part 4A. Accordingly, Transpower does not consider that control is warranted.
88. This submission sets out Transpower's response to the Commission's Report and is structured as follows:
- Section 3 discusses relevant background information including various aspects of the current regulatory regime within which Transpower operates;
 - Section 4 comments on the analytical framework used by the Commission in forming its intention to declare control of Transpower and outlines in principle Transpower's approach to revenue setting;

- Section 5 provides a detailed explanation for the increases in Transpower's prices in 2004 and 2005 in terms of the building blocks that make up Transpower's revenue requirement. The threshold breaches are explained in relation to Transpower's revenue requirement;
 - Section 6 provides a detailed explanation of Transpower's planned future price increases in terms of Transpower's building blocks;
 - Section 7 outlines the processes Transpower has in place to ensure its expenditure is efficient, and discusses Transpower's performance against international benchmarks; and
 - Section 8 discusses the Commission's cost/benefit analysis.
89. As part of its response, Transpower has commissioned independent expert reports from the following:
- Lexecon, "Submission of Gustavo Bamberger", February 2006, ("Lexecon Report"). The Lexecon Report considers the Commission's analysis of the net benefits of control;
 - Peter Bradford, "Submission of Peter Bradford", February 2006 ("Bradford Report"). The Bradford Report evaluates whether the Commission has adequately considered the risks and costs of inappropriate intervention;
 - NERA, "Draft: Declaration of Control of Transpower", February 2006, ("NERA Report"). The NERA Report discusses whether the price path threshold is an appropriate proxy for efficient prices;
 - CRA International, "The Costs and Benefits of Regulating Transpower", February 2006, ("CRA Report"). The CRA Report presents CRA's analysis of the costs and benefits of the Commission controlling Transpower;
 - First NZ Capital, "Report on Cost of Debt of Transpower NZ Limited" ("FNZC Report"). The FNZC Report provides an assessment of the potential impact on Transpower's cost of debt and equity and its

ability to access debt markets in the future if the Commission declares control of Transpower;

- Castalia, "Transmission Upgrade Pricing" February 2006, ("Castalia Report"). The Castalia Report considers the Commission's framework for determining whether Transpower's prices are "excessive";
 - PricewaterhouseCoopers, "Development and Application of EV Methodology to Revenue Setting", February 2006, ("PwC EV Report"). The PwC EV Report reviews the development and application of Transpower's economic value framework for determining its revenue requirement.
 - PricewaterhouseCoopers, "Audit of Threshold Compliance Statements", February 2006 ("PwC Compliance Statement Report"). The PwC Compliance Statement Report considers the points made by the Commission and NZIER in relation to Transpower's compliance with the price path threshold.
90. Transpower notes its concern regarding the short period the Commission has allowed interested parties to consider and formulate their responses to the Commission's Report. Transpower has provided details of its concerns in a separate letter to the Commission.²⁵

²⁵ "Commerce Act (Intention to Declare Control: Transpower New Zealand Limited) Notice 2005", February 2006.

3 BACKGROUND – SETTING THE CONTEXT

3.1 Purpose

91. The purpose of this section is to provide essential background to Transpower's submission and to explain Transpower's actions, which have been criticised and challenged by the Commission.
92. Transpower's approach to revenue setting and pricing is explained, emphasising its origins in a self-regulatory environment, noting that this approach has continued to operate (as required by legislation and more recently regulation) while a new regulatory framework (Part 4A, the GPS and the EGRs) has evolved.
93. Transpower's understanding of the evolving regulatory regime for transmission is set out. The uncertainties created by the present regime are important context to Transpower's submission and to explaining Transpower's recent behaviour.
94. The protracted and at times confused evolution of the new framework has been a source of ongoing uncertainty. This uncertainty underpins the Commission's preliminary conclusions. Transpower has sought to operate in accordance with the relevant regulatory frameworks noting that the interacting requirements of those frameworks are not always clear.
95. The key points covered in this section are summarised as follows:
 - Transpower's approach to the regulatory framework within which it is required to operate is set by its Statement of Corporate Intent ("SCI"). The SCI requires Transpower to (amongst other things): comply with the statutory requirements of the regulatory regimes under which it operates; promote efficient investment in the transmission system; seek to efficiently recover the full costs of its services; and improve the efficiency of its services, whilst optimising asset reliability and

availability. Transpower has at all times sought to act in accordance with these requirements in its SCI.

- The methodology by which Transpower sets its revenue and its prices has been designed to enable Transpower to recover only sufficient revenue to finance its operating costs, including tax, and provide its lenders and its shareholder with a return of and a return on the capital they provided to finance the operating assets.
- Transpower continues to follow an economically neutral (EV=0) approach to transmission revenue and price setting. This approach is designed explicitly to avoid the creation of excess profits while ensuring an adequate level of recovery.
- Transpower's approach to the annual revenue requirement and price setting is set out in "Pricing for Grid Connection Services", 2001, ("pricing booklet" or "2001 Pricing Methodology").
- As set out in the pricing booklet, Transpower's annual revenue requirement is determined using a building block approach closely aligned to that described in the Commission's Report "Commerce Commission Regulation of Electricity Lines Businesses Targeted Control Regime Assessment and Inquiry Guidelines", October 2004 ("Assessment and Inquiry Guidelines") and applied by the Commission in its Unison inquiry. Transpower considers that so long as it relies on the Transpower Pricing Regulations²⁶ for the enforceability of its pricing it must both determine and allocate its revenue requirement in accordance with the methodology.
- The evolving regulatory regime for transmission, comprising Transpower's Pricing Regulations, the GPS, Part F and Part 4A is still in a state of transition. Aspects of the self-regulatory regime continue to operate alongside new (but incomplete) arrangements. This situation creates inconsistency and regulatory uncertainty.

²⁶ Electricity (Transpower's Pricing Methodology) Regulations 2004.

- To the extent that the difficulties in integrating the regimes of the Commission (Part 4A) and the EC (Part F) were foreseeable, the failure of the two Commissions to put in place an MoU, as required by the GPS, has contributed to the lack of clarity and increased regulatory uncertainty.

3.2 The State-Owned Enterprises Act

96. Transpower is a state-owned enterprise ("SOE") as defined under the State-Owned Enterprises Act 1986 ("SOE Act"). Crown ownership is exercised through two shareholding ministers, the Minister for State-Owned Enterprises and the Minister of Finance, who appoint Transpower's board of directors.
97. Pursuant to the SOE Act, Transpower's board of directors is required annually to prepare a SCI setting out, for the next three years, Transpower's objectives, the nature and scope of its activities and certain financial and accounting related information.
98. Transpower is required by its SCI to (among other things):
- (a) "be as profitable and efficient as comparable businesses:
 - seek to be fully accountable for delivering and operating a national grid that meets the needs of users now and into the future;
 - comply with the statutory requirements of the regulatory regimes under which it operates;
 - understand and deliver against customers' and consumers' needs with respect to the services Transpower provides;
 - work with regulatory agencies to seek to ensure that risks to security of supply, as assessed by Transpower, are acknowledged and appropriately addressed in agreed investment plans;

- provide transmission services at the standard of quality and security agreed with National Grid users or required by regulatory agencies;
- provide System Operator services in accordance with service agreements negotiated with users of those services or required by regulatory agencies;
- promote efficient investment in the transmission system;
- seek to efficiently recover the full costs of its services;
- improve the efficiency of its services, whilst optimising asset reliability and availability; and
- pursue business opportunities based on the capabilities and expertise developed through its core business activities.”

99. As part of its business planning cycle, Transpower is required to follow the processes for crown owned companies summarised in the Owner's Expectations Manual published by the Crown Company Monitoring Unit.

“The main steps in this business planning cycle are as follows:

- Shareholding Ministers write to each Crown company board before the beginning of each planning round to detail the information requirements, the timing (milestone dates) and any special issues the company is to address during the planning round.
- Boards are then required to: assess their business environment; reassess their strategic direction; provide a detailed plan for the immediate year; and provide financial projections for the following 2 to 4 years.
- Following the delivery of the boards’ outlook and business plans to the shareholding Ministers, advisors then prepare a report on these documents for shareholding Ministers’ consideration. Draft SCIs/SOIs are delivered together with the business plans.

The SOE Act, the CRI Act and other relevant company-specific legislation require boards to deliver their draft SCIs to shareholding Ministers at least one month before the end of each financial year.

- Shareholding Ministers may then, through their advisors, seek further information.
- Shareholding Ministers then consult with boards on any issues or concerns they have with the business plans and draft SCIs/SOIs. This occurs either by letter or, more often, meeting between shareholding Ministers, advisors and the board (referred to as the business planning meeting).
- Following the business planning meeting (if held) shareholding Ministers write to boards outlining their understanding of the main outcomes and issues discussed.
- Boards then consider the outcomes from business planning meetings and the shareholding Ministers' written comments, and if necessary, revise their business plans and SCIs/SOIs boards then deliver to shareholding Ministers finalised business plans and SCIs/SOIs.
- Shareholding Ministers table the finalised SCIs/SOIs in the House.”

100. The business planning cycle outlined above, subjects Transpower's business plan and revenue requirement setting processes to a level of scrutiny and assessment that ensures among other things compliance with its SCI.

3.3 Transpower's Revenue Setting

3.3.1 Background

101. The background to the principles underlying Transpower's revenue setting and pricing provide important context for the issues raised in the

Commission's Report and, in particular, the Commission's conclusion that Transpower is likely to have been earning excess profits from the 2004/05 pricing year forward.

102. The key structure and components of Transpower's revenue setting and pricing methodology were developed prior to the separation of Transpower from ECNZ in July 1994.
103. The methodology was designed to enable Transpower to recover only sufficient revenue to finance its operating costs, including tax, and provide its lenders and its shareholder with a return of and a return on the capital they provided to finance the operating assets. In essence the methodology sought to deliver, over time, an economically neutral result (i.e. zero economic profits).²⁷
104. These principles continue to underpin the current process established by the 2001 Pricing Methodology according to which Transpower sets its prices. There are two aspects to this process: (a) the revenue requirement (including the economic value framework); and (b) the allocation methodology. These are discussed in more detail below.

3.3.2 Transpower's Revenue Requirement

105. Transpower's annual revenue requirement establishes the level of revenue sufficient to provide an appropriate rate of return on the capital invested, having regard to the risks of the business.
106. The annual revenue requirement is determined separately for HVAC and HVDC assets using a building block approach described in the 2001 Pricing Methodology and is similar to that outlined in the Commission's Assessment and Inquiry Guidelines and applied by the Commission in the Unison inquiry. The formula applied by Transpower is as follows ("revenue formula"):

²⁷ Coopers & Lybrand, "Methodology Review", October 1995.

Annual revenue	=	(Average operating capital employed x WACC ²⁸) + Operating costs + Depreciation + Cash tax payable + Interest tax shield ²⁹ - Asset revaluations ³⁰
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Figure 3.1: Transpower’s Annual Revenue Formula

107. The various components of the revenue formula are discussed below.

Average Operating Capital Employed

108. This is the average capital employed in the business, and is calculated using the mean of the opening and closing operating capital for the relevant financial year. The predominance of operating capital is represented by the ODV of transmission system fixed assets, which is reset annually. Operating capital currently excludes “works under construction”.

WACC

109. The weighted average cost of capital is estimated using the capital asset pricing model (CAPM). Transpower uses the extended Brennan-Lally version of the CAPM. The inputs to the CAPM are reviewed annually based on prevailing financial market conditions, and taking account of advice from specialist corporate financial advisers. A key parameter in the estimation of WACC is the asset beta, which reflects the systematic risks of Transpower’s business. The asset beta is determined by the Transpower Board based on the prevailing economic and regulatory environment.

²⁸ i.e. the “capital charge”.

²⁹ Adjustments are required to the revenue formula to gross up the returns for tax effects (i.e. WACC is expressed in post tax terms but the revenue requirement is determined “pre tax”. Cash tax and the interest tax shield are added back in deriving the revenue requirement.

³⁰ Estimated changes in asset value attributable to the customer, arising from the annual valuation of transmission system fixed assets using the ODV methodology.

Operating Costs

110. Operating costs refer to the expenses of the business and comprises two primary components:

- “Operating and maintenance” or O&M expenditure, which represents the direct costs of operating and maintaining assets, and also includes project investigations (or feasibility studies);
- Departmental expenditure which represents the corporate overheads and other costs of running the transmission business.

Depreciation

111. Depreciation measures the consumption of the economic benefits embodied in an asset whether from use, the passing of time or obsolescence. Any asset write-offs are also included within depreciation.

Cash Tax Payable and Interest Tax Shield

112. Cash tax payable is the estimated tax payable in the relevant financial year. The interest tax shield represents the tax benefit that Transpower obtains from its use of debt funding.

Asset Revaluations

113. Any estimated annual asset revaluations expected to accrue to the customer under the ODV methodology are subtracted from the revenue requirement. This adjustment recognises revaluations (i.e. positive movements in asset valuation) as a source of income (in the form of higher future revenues).

114. The achievement of a commercially appropriate rate of return is predicated on establishing the revenue to be billed and recovering it from customers efficiently. To attain this outcome requires both revenue security (i.e. the surety that charges levied to recover the revenue target are enforced) and

a means of adjusting for inevitable variations between actual recovery and targeted recovery (as determined by the revenue formula).

115. Variations in outcomes relative to targets can arise, e.g. because of variations between actual and forecast revaluations, differences between budgeted and actual costs and the effect of intra-year demand-related adjustments to transmission charges. (This latter factor is discussed in more detail in Section 5.4, in relation to the explanation of Transpower's threshold breaches.)
116. The reliance on forecasts (of costs, revaluations, demand, etc) is an important and essential feature of the revenue setting approach. For example, to arrive at the average of operating capital for the pricing period (the mean of opening and closing capital) Transpower must forecast closing operating capital and hence must estimate new capital expenditure on assets that will be commissioned and included in the asset base at the end of the period.
117. To address the effects of forecasting and operating variances, Transpower requires a framework that takes account of the practical realities of commercial life to ensure that, over time, no monopoly profits are earned. This framework is discussed in the next section.

3.3.3 Economic Value Framework

118. Transpower has adopted an economic value approach to measuring its financial performance.³¹ This enables actual financial performance to be measured and compared to the ex ante projected performance used to set the revenue requirement and facilitates the balancing of the interests of customers and shareholders.

³¹ This approach was adopted by Transpower following a high level review by Coopers & Lybrand of financial methodologies used by Transpower (Coopers & Lybrand, "Methodology Review", October 1995).

119. The underlying principle of the economic value approach is that Transpower should not generate economic gains for its shareholders at the expense of its customers.
120. The development of the economic value framework by Transpower was a form of self regulation, at a time when large electricity lines businesses were subject to a relatively light handed regulatory framework.
121. At the end of each financial year Transpower calculates its financial performance in economic value terms. Audited economic value statements are derived from the company's audited financial results and audited valuation and annual overall economic gains or losses related to the transmission monopoly business are calculated. This reflects the extent to which the monopoly transmission business has over recovered (economic gain) or under recovered (economic loss) relative to an appropriate rate of return (WACC).
122. In establishing the level of economic gain or loss generated by the transmission business, a number of items are excluded. These excluded items are considered to be "to the account of the shareholder" rather than "to the account of the customer". Most importantly, Transpower bears the risk of optimisation value adjustments arising from application of the ODV methodology and value adjustments for assets with lower cost economic alternatives, arising from application of the ODV methodology.³²
123. The annual base revenue requirement is adjusted to return over recoveries to, or recoup under recoveries from, customers. This adjustment is made in respect of AC and DC customers separately (consistently with the separate revenue requirements set for these customers). However, the parameters used to calculate the amount of

³² For example, if an asset worth \$100 is "optimised down" under ODV to a notional asset worth \$40, the \$60 optimisation loss is for the account of the shareholder, not to the account of the customer. Similarly, were the asset eventually to be "optimised up" to its original value, the gain would again be to the account of the shareholder, not to the account of the customer.

accumulated economic gain or loss that adjusts the respective revenue targets is consistent. The application of the economic gain/loss to targeted revenue through the inclusion of an economic value charge in the allocation methodology is discussed further below.

3.3.4 Transpower's Allocation Methodology

124. The second aspect of the process by which Transpower sets its prices is the allocation methodology, which allocates Transpower's revenue requirement to, and determines the charges to be paid by, Transpower's customers.

125. Transpower's allocation methodology is a sunk-cost recovery methodology, designed to make transmission charges as fixed as is practicable (taking into account a number of “real-life” commercial and physical factors). The underlying philosophy of recovering sunk costs in as fixed a manner as practicable is that “as fixed as practicable” transmission charges will minimise distortions to the pricing signals for investment and consumption decisions intended to be sent through nodal prices.

126. The allocation methodology comprises four main charges (Table 3.1):

Charge	Basis	Allocator	Generators	Offtake Customers
Connection charge	Cost of HVAC connection assets ³³	Optimised replacement cost	Yes	Yes
Interconnection charge	Residual cost of HVAC assets	GXP Demand	No	Yes
HVDC charge	Cost of HVDC assets	GIP injection	Yes – SI only	No
Economic Value charge	1/3 balance of EV customer account	Pre-EVA charge	Yes	Yes

Table 3.1: Summary of Key Components of Allocation Methodology³⁴

127. A full description of the derivation of each charge is provided in the 2001 Pricing Methodology. The economic value charge is discussed in more detail below as it is particularly relevant to the conclusions upon which the Commission base its preliminary views that Transpower's relevant performance and behaviour is not consistent with the outcomes sought in section 57E of the Commerce Act.

Economic Value Adjustment Charge

128. As discussed above, the economic gain or loss identified as being attributable to customers (i.e. which fairly and reasonably should be recovered from or returned to customers) needs to be reflected in the revenue requirement for succeeding years.

129. This recovery or return occurs through the EV adjustment charge – which is determined by the balance of the EV customer accounts (for HVAC and HVDC customers).

³³ The definition of connection, interconnection and HVDC assets can be found in the pricing booklet. In concept, connection assets are defined (using a topological approach) as those assets at grid exit or injection points, plus any associated spur lines dedicated to those GXPs/GIPs. All non-connection HVAC assets are inter-connection assets.

³⁴ A number of complexities of the allocation methodology are ignored as they are not directly relevant for the purposes of this discussion.

130. The respective revenue targets for the HVAC and HVDC are adjusted by one-third of the balance of the outstanding EV customer account balances. This converts to annual EV adjustment charges.³⁵ This adjustment is subject to two constraints: (1) the adjustment to each revenue stream (AC and DC) is limited to no more than 10% of that revenue stream per annum; and (2) if the balance of the forecast EV customer account(s) are within plus or minus \$20 million of zero, Transpower may elect not to make the above adjustments to the annual revenue target.
131. Outstanding balances are carried in the customer economic gain/loss account. To ensure neutral economic treatment, and in view of Transpower's discretion to forego adjustments subject to the constraints above, residual economic gains/losses carried forward attract an interest charge at Transpower's cost of equity.

3.3.5 System Operator Revenue

132. The foregoing discussion relates only to the revenue requirement for "transmission asset owner services", recovered by way of transmission charges through the transmission pricing methodology. In addition, notional revenue for the purposes of threshold compliance includes revenue for "system operator services". A full description of the services which fall within the definition of specified services under the Gazette Notice is set out in, for example, Transpower's first (revised) threshold compliance statement.³⁶
133. The revenue for system operator services was, prior to 1 March 2004 recovered from a variety of contractual fees and charges. From 1 March

³⁵ Over time, HVAC EV adjustment charges have typically been "negative" i.e. resulting in a payment to HVAC customers reflecting the positive balance in the HVAC EV customer account.

³⁶ "Commerce Act (Electricity Lines Thresholds) Notice 2003 Revised Compliance Statement First Assessment Date (6 September 2003)", October 2004. Refer to Schedule 1, Definition of Transpower's Specified Services.

2004, charges for system operator services have been recovered under the System Operator Service Provider Agreement (SOSPA) negotiated with the EC. The SOSPA fees comprise a base service fee (set as a levelised charge over the five year contract term) with additional fees payable for incremental services agreed between Transpower (as system operator) and the EC.

3.4 Evolving Regulatory Regime

3.4.1 Introduction

134. This section describes the evolving regulatory regime for transmission services. It is not intended to provide a full or complete description. However, it is an opportunity to make some key observations on the regime which differ, from or add to, the description provided in the Commission's Report.

135. The Commission notes at paragraph 60 of its Report that the EC has stressed that Part F has a number of elements, all of which are required to operate together to contribute to the achievement of Part F objectives and the EC's broader objectives, and that until all elements of Part F are in place and have been seen in action, it will not be possible to fully assess the extent to which Part F as implemented will achieve its objectives over time.

136. The Commission appears to have ascribed evidence of behaviour inconsistent with the intent of both Part F and Part 4A, in Transpower's conduct in responding to the uncertainties, incompleteness and evolution of Part F. Transpower disagrees with the basis upon which the Commission has drawn these conclusions and in the remaining part of this section of its submission highlights what it considers to be relevant aspects of the evolution of the Part F and Part 4A regimes that are insufficiently discussed in the Commission's Report. In particular:

- The development of the thresholds under subpart 1 of Part 4A;

- The development of Part F; and
- The relationship between Part 4A and Part F.

3.4.2 Part 4A of the Commerce Act

137. As a large electricity lines business (“LELB”), Transpower is subject to the targeted control regime administered by the Commission under subpart 1 of Part 4A of the Commerce Act 1986 (“Act”), which came into force on 8 August 2001.

The Thresholds

138. On 6 June 2003, the Commission set a “CPI-X” price path threshold (“initial price path threshold”) and a quality threshold applicable to Transpower. These thresholds were subsequently reset on 30 June 2004 and 30 June 2005.

139. The Commission's Report contains an outline of the development of the thresholds. Transpower does not intend to repeat that outline here, but considers that there are two key aspects to the development of the thresholds that are relevant to the conclusions the Commission has drawn. These relate to:

- The development of the thresholds’ as a screening mechanism only; and
- The X-factor applicable to Transpower.

The Thresholds as a Screening Mechanism

140. The thresholds were developed as a screening mechanism, or selection tool only. This point is immediately apparent from the Commission's publications in relation to the development of the thresholds.

141. The Commission began the process of setting initial thresholds on 21 March 2002 by issuing a discussion paper “Regulation of Electricity

Lines Businesses”. The discussion paper described the relationship between the thresholds and the purpose statement as follows:

Thresholds

1.6 To achieve the Purpose Statement, we have proposed a set of thresholds. We note that thresholds are intended to provide incentives to businesses to modify their behavior (so they do not breach the thresholds). While actual price control may affect only a few businesses, the threshold regime, and the associated threat of regulation, would affect all large electricity lines businesses.

1.7 We emphasise that thresholds are selection tools to help identify those businesses that we will further investigate. Breach of a threshold does not necessarily mean that the behaviour of the business is inconsistent with the Purpose Statement, or that it should necessarily be placed under control.

142. The discussion paper examined four different types of thresholds: an efficiency threshold, a price path threshold, an excess profits thresholds and a quality threshold. The discussion paper discussed at some length the potential trade-offs between the complexity of the thresholds and the level of investigation required following a breach.

Targeting Precision

7.6 We consider that thresholds:

- Identify businesses that may not have complied with the Purpose Statement; and
- Provide standards of performance, against which businesses can measure their own performance.

7.7 However, breach of a threshold does not, of itself, imply a business has failed to comply with the Purpose Statement. A

breach simply means the Commission would have cause to undertake further investigation and consideration of the circumstances specific to that business. The investigation process following breach of a threshold is discussed in Chapter 9.

7.8 An important question for the design of the thresholds is how precise should they be. At one extreme, a threshold scheme might be so precise at targeting non-compliance that no further investigation of the business would be necessary. At the other extreme, an imprecise threshold might target a large number of businesses, many of which may or may not be subsequently found to be compliant...

7.9 Although a prices threshold might be preferred given its accuracy, in practice, a highly precise threshold is likely to have higher costs or other deficiencies compared with an imprecise threshold....

143. On 23 December 2002 the Commission published its draft decisions on the thresholds. The draft decisions indicated that the Commission intended to set three thresholds: a price path threshold; a quality threshold; and an excess profit threshold.

144. The Commission described the purpose of the price path threshold as follows:

82. The purpose of the price path threshold is to ensure efficiency gains are shared with consumers and limit the ability of lines businesses to earn excessive profits, while preserving their incentives to pursue profitable efficiency improvements...

84. A feature of the Commission's intended price path threshold is the common X factor, applying to the price path for all lines businesses, including Transpower. The Commission is

aware that lines businesses do not face identical cost drivers, and may face different cost paths in the future. Nevertheless, the Commission considers a common X to be consistent with the screening nature of the price path threshold.³⁷

145. The Commission released its final decision on the initial thresholds on 6 June 2003, and the thresholds were set by the Commerce Act (Electricity Lines Thresholds) Notice 2003 gazetted on the same date. The Commission decided to set a price path threshold and a quality threshold.

146. The final decision paper again emphasised that the role of the thresholds was as a screening mechanism:

The Thresholds

16 The thresholds are a screening mechanism to identify lines businesses whose performance may warrant further investigation and, if required, control by the Commission. The Commission has set two thresholds – a price path threshold and a quality threshold ...³⁸

The X-factor Applicable to Transpower

147. The Commission appears to rely upon Transpower's submissions on the X factor for the 2004/05 assessment period as justification for its use of the threshold price path for that period as a benchmark for an efficient price.³⁹ Transpower disagrees with the use of the threshold price path at a conceptual level and discusses this in more detail in Section 4. Transpower also disagrees with the conclusions drawn by the Commission by reference to Transpower's submission on the X factor.

³⁷ Commerce Commission, "Regulation of Electricity Lines Businesses Targeted Control Regime Draft Decisions, December 2002.

³⁸ Commerce Commission, "Regulation of Electricity Lines Businesses Targeted Control Regime Threshold Decisions", June 2003.

³⁹ Paragraph 187 of the Commission's Report.

148. Transpower has raised concerns consistently in submissions, both written and oral, to the Commission throughout the development of the threshold regime on a range of factors, including making clear its concerns about the Commission's approach to setting, and application of the X-factor. It is misleading to cite Transpower's past unwilling "acceptance" of an X-factor of 1, without also acknowledging the context in which this position arose.
149. From the outset, Transpower warned the Commission against setting an X-factor without regard to a number of attendant factors such as the treatment of costs arising from investments to increase transmission service levels; the need for P_0 adjustments; criterion for reliability under the quality threshold; the extent of excluded services, etc.⁴⁰ With its own expectations of future investment requirements in mind, Transpower in particular cited the international experience of X-factors that were significantly negative (i.e. resulting in revenue controls of CPI+X).⁴¹
150. The Commission did not take account of these submissions, however, and implicitly took the view that such matters were unimportant in the context of a regime in which the threshold was simply a screening mechanism, in contrast with the kinds of ex ante control regimes encountered internationally,⁴² and to which Transpower was referring in its submissions.
151. Based on its prevailing view that the thresholds were simply a screening mechanism, the Commission then sought to define the X-factor with reference to a number of component factors. In the case of Transpower,

⁴⁰ "Submission to the Commerce Commission on Regulation of Electricity Lines Businesses Draft Decisions", February 2003.

⁴¹ In such regimes, the X-factor is derived after conducting an ex ante building block based assessment of future revenue requirements. In a sense the CPI+/-X is simply the slope of the line of "best fit" through the annual revenue requirements for the regulatory period.

⁴² Of course in the Commission's current Report, the role of the threshold has seemingly moved from a screening mechanism to one of apparent control or cap, and therefore the concerns raised by Transpower and dismissed by the Commission are now highly relevant.

the X-factor (eventually set to $X=1\%$) was, in effect, set equal to the so-called B-factor (representing an underlying productivity improvement factor).

152. Transpower submitted, and the Commission agreed, that a B-factor of 1% was a reasonable estimate for a productivity improvement factor for transmission (rather than the Commission's original proposal 3%), based on what limited information there was available. Hence, for the purposes of initially implementing the Commission's stated approach to setting a threshold, an X-factor of 1% was adopted. It should be noted, Transpower has questioned the conceptual basis of the CPI-X approach at every stage, in part because of the concern that the threshold might in time be used as a means of defining an efficient price, as is now the case.
153. It is true to say that Transpower accepted CPI-1% as a reasonable threshold in the context of: (a) the Commission's preferred regulatory model; (b) as an explicitly temporary measure (pending greater clarification of the then incipient role of the EC), and (c) the Commission's refusal to have regard to Transpower's previous submission. It is not correct to suggest in any way that Transpower agreed with the form of the regulatory regime that was operating or in anyway endorsed the position that the Commission arrived at.

3.4.3 Transpower's Self Assessments Against the Thresholds

154. Large electricity lines businesses are required to submit to the Commission a written self assessment against the thresholds for each specified assessment date. This written self assessment is known as a threshold compliance statement.
155. Transpower has, to date, published three threshold compliance statements, as summarised in the Commission's Report. The Commission's Report canvasses in some detail the sequence of events around Transpower's compliance statements implying that Transpower

has transgressed the threshold compliance reporting requirements of the Gazette Notice in some way, although it is not clear, if or to what extent this is material to the Commission's conclusions.

156. In the context of the Commission's overall conclusions, Transpower considers it important to make clear in this submission that Transpower understood that it had agreed with the Commission the manner in which it would report against the thresholds. To this end, Transpower notes that the Commission has not previously expressed any dissatisfaction with, or required Transpower to further resubmit, its threshold compliance statements. A fuller description of the development of Transpower's approach to its threshold compliance statements, and in particular in relation to the key matter of defining quantities, is set out in Appendix 1.

3.5 Part F of the Electricity Governance Rules

157. Part F of the EGRs came into force on 28 May 2004. Part F is intended to provide a comprehensive regulatory framework for the following aspects of the provision of transmission services:

- Transmission agreements (section II);
- Grid upgrade and investment (section III);
- Transmission pricing methodology (section IV);
- Financial transmission rights (section V).

158. As the Commission notes at paragraph 60 of its Report, not all of the elements of Part F have yet been developed. When Part F came into force in May 2004 it provided a structural framework for the EC, but many of the operative (as opposed to procedural) aspects of Part F were yet to be developed. Only when all of these operative elements are in place will there be an integrated regime.

3.5.1 Relationship between Part 4A and Part F

159. The Commission's Report and analysis raises a number of issues of interpretation regarding the regulatory framework as it relates to transmission.

160. The critical issue underpinning the Commission's assessment is the nature of the intended interaction between investment approvals and decisions made under Part F of the EGRs with the operation of Part 4A.

161. The scope for misunderstanding and differences in interpretation is obvious, and has been further highlighted by the Commission's Report.

Expenditures Requiring Approval under the EGRs

162. There is considerable uncertainty over what transmission expenditures should be approved under the EGRs. This uncertainty applies to both interim grid expenditures under the transitional provisions and reliability or economic investments as part of a grid upgrade plan (GUP).

163. Transpower has sought to make appropriate decisions as to what investments should be approved by the EC in view of this uncertainty of scope, coupled with the additional uncertainties as to how EC approval decisions: (a) affect Transpower's ability to recover the costs of investments that are variously either approved, rejected or for which approval is not sought; and (b) impinge on the Commission's view as to the validity of investment approvals as satisfactory explanation for a breach of its thresholds.

164. Transpower has also sought to achieve clarity on these matters through an ongoing dialogue with the EC staff. What emerged was an understanding on Transpower's part that:

- The EC favoured a test for application of the transitional provisions based on a definition of normal ongoing grid expenditure based on historical measures of capital expenditure.

- The EC accepted that expenditures which “could” be approved under the GUP (as reliability or economic investments) were restricted to what in Transpower’s terminology are described as “enhancement and development” capital expenditures. In reaching this agreement with the EC, “refurbishment and replacement” grid capital expenditure, IT and minor asset investment, and all forms of operating expenditure were explicitly excluded from the ambit of EC approval.⁴³
- The intent of the EGRs is that, subject to Part 4A, Transpower is to recover the full economic costs of providing transmission services. Given the EC’s view that not all expenditure requires approval, Transpower must be able to recover costs for such investments provided section 57E concerns do not arise.
- Accordingly, the position of the EC would seem to be that the primary role of EC approval is to provide Transpower with “evidence” that an element of expenditure and the associated increases in transmission charges is reasonable in the view of the EC when Transpower is seeking to explain a threshold breach to the Commission.

165. Transpower has relied on these understandings, and the EC’s interpretations as they have emerged, in its subsequent decision making. It is important to note that the thinking of EC staff on these issues has evolved over the last 12 months during the course of discussions, further highlighting that the issues are not clear cut.

166. The Commission's report also highlights the scope for operational uncertainty and confusion between the two regulatory regimes:

- The Commission takes the view that expenditure for the TTUs should not be a mitigating factor for the breaches of the threshold. This is a confusing contrast in views with the EC, but apparently stems from

⁴³ “Process and Content of Grid Upgrade Plan (GUP)”, Letter from Roy Hemmingway to Dr Ralph Craven, 14 September 2005.

the Commission taking the view on the basis that the price threshold allows for an element of revenue growth (equal to demand growth).

- Transpower's behaviour in relation to seeking approval for the TTUs is identified as supporting conclusions that outcomes inconsistent with the intention of Part F and Part 4A are likely in the future, even though Transpower's ultimate decision to seek approval resulted from the some of the discussions with the EC referred to above, that highlighted different views on the basis for, and consequences of, approval.
- The EC's assessment framework for considering normal ongoing grid expenditure as a basis to consider the TTUs is impliedly called into question by reference to Transpower's purpose in seeking approval, even though the EC was: 1) aware of Transpower's initial views that such expenditure was arguably normal ongoing expenditure and 2) had itself previously observed the possibility that the TTU proposals might not require expenditure additional to Transpower's normal ongoing expenditure.
- The EC's approval of the TTUs seems to carry no weight with the Commission. Conversely, the terms of the EC's approval of the TTU and its comment on the efficiency of TTU expenditure already committed (for which the EC considered it had no jurisdiction) indicate that the EC itself seems to view that one of the reasons for seeking approval is to provide evidence of efficient expenditure beyond the Commission's price path threshold.

167. Equally, on a previous interpretation, the EC suggested that approval under Rule F-III-16 was one of the ways of ensuring recovery, albeit that this assumed recovery would seemingly contravene acceptable behaviour under Part 4A.

Lack of a Memorandum of Understanding

168. Government clearly recognised this risk of a lack of coordination in the roles of the two Commissions as they sought to operationalise their respective regulatory functions. In its GPS, published in October 2004, Government requested “...the two Commissions to develop and publish a Memorandum of Understanding on how they propose to operationalise the coordination of their respective roles...”.
169. Transpower has suffered directly from the lack of clarity arising from the failure of the two Commissions to address this requirement. Despite several requests for information and engagement, Transpower understands that nothing of substance has emerged.

4 THE COMMISSION'S ANALYTICAL FRAMEWORK

4.1 Introduction

170. This section discusses the analytical framework used by the Commission in forming its intention to declare control of Transpower. It outlines Transpower's concerns with the Commission's approach.

171. In Transpower's view:

- The Commission can only form an intention to declare control if it undertakes a "backward looking inquiry" which demonstrates that section 57E(a) – (c) concerns exist during the assessment periods under investigation;
- The thresholds are a screening mechanism, not a proxy for efficient prices or efficient costs. In assessing whether Transpower has earned excess profits, the Commission should undertake a building blocks analysis;
- The GPS, EGRs, Part 4A and the Pricing Regulations do not operate to restrict Transpower from including in its revenue requirement, investments that have not yet been approved
- There is no onus on Transpower to demonstrate why control should not be imposed. Rather, it is for the Commission to be satisfied, on the balance of probabilities, that section 57E (a) – (c) concerns occurred during the period in which the threshold breaches being inquired into, and if so, that control with its associated costs is necessary to ensure the section 57E objectives are achieved.
- The Commission's analysis does not shed any light on whether Transpower has been earning excess profits during the assessment periods.
- This submission demonstrates that the increases in Transpower's revenue requirement during the assessment periods do not represent

excess profits and that the pricing methodology adopted by Transpower cannot lead to long term excess profits and there is no basis to support any conclusion of likely future excess profits.

- An assessment of whether excess profits exist can only be determined by a building blocks analysis.
- The Commission's analysis does not otherwise demonstrate any purpose statement concerns during the assessment periods and the Commission cannot be satisfied as to the additional benefits of control relied on.
- Accordingly the Commission's inquiry must end.
- If, having read this submission, the Commission should seek to assess Transpower's pricing behaviour on any other basis than that outlined in the Commission's Report, it is not open to it to make any determination of control unless such assessment has been the subject of further consultation as required by section 57I.

4.2 The Purpose Statement

172. Section 57H of the Commerce Act requires the Commission to determine whether or not to declare all or any of the goods or services supplied by a lines business that has breached the thresholds to be controlled, taking into account the purpose of subpart 1 of Part 4A of the Act.

173. The purpose of subpart 1 of Part 4A is set out in section 57E of the Act, which provides that:

"The purpose of this subpart is to promote the efficient operation of markets directly related to electricity distribution and transmission services through targeted control for the long-term benefit of consumers by ensuring that suppliers:

- (a) are limited in their ability to extract excessive profits; and
- (b) face strong incentives to improve efficiency and provide services at a quality that reflects consumer demands; and

(c) share the benefits of efficiency gains with consumers, including through lower prices."

174. The Commission states at paragraph 123 of its Report that it will form an intention to declare control if it is satisfied, on the basis of available evidence and analysis, that a declaration of control would promote the efficient operation of markets for the long term benefits to consumers, taking into account the three dimensions of economically efficient markets. It outlines these at paragraph 122 of its Report as being allocative, productive and dynamic efficiency.

175. The Commission goes on to state in paragraph 123 that it is also guided by the specific outcomes in section 57E – i.e. paragraphs (a) – (c), the prioritisation criteria in section 57K and the Commission's standard enforcement criteria of conduct, detriment and public interest.

176. Transpower agrees that promoting the efficient operation of markets for transmission services is a central purpose of subpart 1 of Part 4A, as it applies to Transpower. However, section 57E is specific as to how subpart 1 should operate to achieve this central purpose and this is by reference to each of the objectives identified in paragraphs (a) – (c).

177. The (a) to (c) objectives are the overriding concern of section 57E and prescribe the matters to which the Commission must direct its post breach inquiry. It is incorrect to suggest that paragraphs (a) – (c) are subsidiary objectives having similar status to the prioritisation criteria in section 57K and the Commission's standard enforcement criteria.

178. This is made clear in the High Court decision of *Unison Networks Limited v Commerce Commission (Unison)*,⁴⁴ where Justice Wild comments at paragraph 168 of that decision that the Commission's investigation should

⁴⁴ *Unison Networks Limited v Commerce Commission* (Wild J 28 November 2005 Wellington Registry CIV 2004 485 960), paragraph 168.

end if none of the section 57E (a) – (c) concerns are demonstrated to exist.

179. From an analytical framework perspective, this means that:

- Consideration of each of the specific concerns identified in paragraphs (a) – (c) of section 57E is a mandatory statutory direction given under section 57H. Where a decision maker is given a direction that certain matters are to be taken into account, it is a well established principle that those matters must be considered and must be given weight as a fundamental element of the final decision.
- All of the matters identified in paragraphs (a) – (c) must be considered and taken into account by reference to the central purpose in the introductory words of section 57E as part of any inquiry whether to declare control. Any concerns identified must be considered and balanced as part the whole of the matters required to be taken into account.
- The Commission has no discretion to take other matters into consideration. In particular, while the prioritisation criteria in section 57K and the Commission's standard enforcement criteria may be relevant to the Commission's decision to pursue an inquiry into Transpower's threshold breaches, these criteria are relevant only to the order in which the Commission undertakes its duties under subpart 1 as between all of the lines businesses subject to subpart 1. These are not criteria which may impact on and influence any substantive decision, such as a decision whether to declare control, under that subpart. *Unison* and section 57H are clear that the only criteria which the Commission may take into account are those in section 57E.

4.3 Two Stage Inquiry

180. The decision in *Unison* also considers the nature of the Commission's post threshold breach inquiry in terms of “whether to” impose to control, and the

extent to which, it is both a backward and forward looking inquiry. These are described in the decision as the following questions:

- Was the firm extracting excessive profits, or inefficient, or failing to share the benefits of efficiency gains with consumers over the period in which the breach occurred ("backward looking inquiry");
- If so, is control, with its associated costs, needed to ensure the section 57E goals are achieved ("forward looking inquiry").

181. Paragraph 126 of the Commission's Report states that the extent to which the Commission might take past and future information into account will depend on the specific circumstances. However, a decision to declare control can only be made if the backward looking inquiry demonstrates section 57E (a) - (c) concerns. Transpower considers that the Commission's inquiry must therefore, in the first instance, take both a backward and forward looking perspective and then if concerns are found to exist, a forward looking perspective (i.e. both past and future information must be taken into account). However, a decision to declare control can only be made if the backward looking inquiry demonstrates section 57E (a) - (c) concerns.

182. In this context Justice Wild noted at paragraph 114 of *Unison*, that it is implicit in the term "promote" that achieving the section 57E purpose will, or may, take time. This focus on the longer term is equally applicable to a consideration of whether to declare control as it is to any other decision under subpart 1.

4.4 The Commission's Evidence

183. The basis on which the Commission has formed its preliminary intention to declare control is summarised at paragraphs 117 and 118 of the Commission's Report. The Commission concludes that Transpower's recent performance and behaviour is not consistent with the outcomes sought in the purpose statement, whereas control would achieve those

purposes. The evidence relied on by the Commission to reach this conclusion is described in paragraph 118 as:

- Significant portions of Transpower's threshold breaches remain unexplained as discussed at paragraphs 139 – 167 of the Commission's Report. The Commission concludes, therefore, at paragraph 189 that Transpower's April 2004 price increase was unjustified and Transpower is likely to have been earning excess profits since that increase;
- Transpower's conduct may lead to outcomes inconsistent with the intention of both Part F and Part 4A as discussed at paragraphs 88 – 98 and 168 – 185 of the Commission's Report;
- Absent control, Transpower's conduct would be less likely to result in efficient outcomes consistent with section 57E, as it appears to be attempting to pre-fund its yet to be approved investment programme, as discussed at paragraphs 191 – 216 of the Commission's Report.

184. While Transpower disputes that there is in fact "credible evidence" of these matters, it also considers that these conclusions are inconsistent with section 57H and section 57E in a number of respects. In summary:

- The price path threshold is not a proxy for efficient prices or for efficient costs;
- To assess whether Transpower has earned excess returns, the Commission should undertake a building blocks analysis;
- Transpower's conduct is not inconsistent with Part 4A and Part F.
- Transpower is not attempting to pre-fund its yet to be approved investment programme.

These are discussed in more detail below.

4.4.1 The Role of the Thresholds within the Targeted Control Regime

185. The Commission's Report states that there is credible evidence that significant portions of Transpower's breaches remain unexplained;

therefore Transpower's April 2004 price increase was unjustified and Transpower is likely to have been earning excess profits since that increase.

Threshold as Screening Mechanism

186. The Commission has applied the price path threshold as a proxy for the efficient level of transmission prices (including costs) and has assumed that any unexplained threshold breach necessarily amounts to an excess profit. Transpower considers that this analysis is deficient for the reasons discussed below.

187. As outlined in Section 3, the price path threshold was designed to perform a limited role within the targeted control regime as a "screening mechanism" or a "selection tool" to enable the Commission to identify those large electricity lines businesses that would be subject to further "targeted" inquiry. The Commission has emphasised, on a number of occasions, that "a breach of the thresholds does not necessarily mean that the behaviour of the business is inconsistent with the purpose statement".

188. In *Unison* the following points were common ground between the parties:

- The thresholds must be over-inclusive. In other words, they must not fail to catch LELBs that are "out of control" but it is acceptable that they also catch some "false positives" – i.e. LELBs which, upon further analysis, do not require control;
- The thresholds do not have to be especially refined, or a perfect screening mechanism, but they need to be transparent, certain and predictable;
- A price increase is not of itself a bad thing in terms of the section 57E purposes. Whether it is good or bad depends on a number of other factors, including what the starting price was, how big the increase is and whether the increase reflects increased costs.

189. The Commission itself also made the statement, referred to at paragraph 97 of the judgment, that the price path threshold is not required to "be a "proxy" for identifying LELBs that are extracting excess profits or are inefficient or are not sharing efficiency gains", or to "stand in place of the rest of the statutory process for determining whether an LELB should be subject to control".⁴⁵
190. The Commission's Report does not discuss or provide an explanation of why the Commission has chosen to ignore its previous statements in relation to the role of the threshold and provides no reasons for why it considers the threshold price path to be a proxy for efficient prices.
191. Use of the threshold price path as a proxy for efficient prices has the effect of converting the thresholds from their original purpose as "thresholds" for screening purposes to a form of price control.
192. That the Commission never intended its thresholds to have the effect of price controls is also demonstrated by comments made at the time the thresholds were set. Using the thresholds as a screening mechanism avoided the cost of conducting a full "rate case" for each large electricity lines business. In commenting on the thresholds before gazetting, the Commission noted that because they were "generic", there was a very real risk to efficiency if companies were to treat them as controls:

"The Commission considers that lines businesses should regard the declaration of control as an outcome to be avoided where possible. However, given the generic nature of thresholds, the purpose of the regime may not be achieved if lines businesses

⁴⁵ Unison Networks Limited v Commerce Commission (Wild J 28 November 2005 Wellington Registry CIV 2004 485 960), paragraph 97.

endeavoured to avoid breaching thresholds under all circumstances or at all costs.⁴⁶

193. The price path threshold for Transpower was set by reference to Transpower's prevailing price level at the initiation of the threshold regime. No calibration was attempted and, consequently the price path threshold imputes nothing about the efficient level for transmission prices.

194. During the Commission's conference on the Intention to Declare Control for Unison, the Commission's consultant, Dr Denis Lawrence, claimed that the analysis on which the thresholds for distribution businesses were set was sufficiently rigorous that their breach would indicate the existence of excess profits.⁴⁷

195. Notwithstanding the question of whether the Commission can claim its distribution business thresholds to be "relatively generous", these thresholds were created in a fundamentally different way to Transpower's:

For distribution businesses the Commission has used a comparative approach to setting the X factors.⁴⁸

196. Whereas:

There is currently insufficient information on which to establish a robust comparative approach to assessing Transpower's performance and therefore only a B factor has been set for

⁴⁶ Commerce Commission, "Regulation of Electricity Lines Businesses - Targeted Control Regime: Draft Decision", 23 December 2002, page 19.

⁴⁷ Transcript: Commerce Commission Conference - Intention to Declare Control: Unison Networks, 5 December 2005, page 51.

⁴⁸ Commerce Commission, "Regulation of Electricity Lines Businesses - Targeted Control Regime: Draft Decision", 23 December 2002, page 2.

Transpower. Consequently, Transpower's X factor is equal to its B factor.⁴⁹

197. Yet this B factor was not calculated with reference to Transpower or its comparators at all:

the X factor in Transpower's CPI-X price path was set to 1%, equivalent to average distribution business productivity growth over the previous five years.⁵⁰

198. Electricity transmission is a significantly different business from distribution, in terms of the nature of the service provided, economies of scale, wholesale market impacts, other engineering factors etc. That Transpower has breached its price path threshold is evidence only that historical distribution productivity growth is lower than the rate of change of Transpower's efficient costs today.

Economic Analysis of Thresholds as Proxy for Efficient Prices

199. Independent economic advice obtained by Transpower strongly suggests that there is no economic rationale for use of the threshold price path as a proxy for efficient prices and that the Commission's conclusions in this regard are inconsistent with the section 57E purpose statement.

200. As part of this inquiry Transpower has engaged NERA to, inter alia, provide independent expert opinion on the appropriateness of the Commission's use of the thresholds as a proxy for efficient prices.

201. NERA concludes that the starting point for Transpower's price threshold, being based on the lowest average prices over an arbitrarily chosen date

⁴⁹ Commerce Commission, "Regulation of Electricity Lines Businesses – Targeted Control Regime: Draft Decision", 23 December 2002, page 2.

⁵⁰ Commerce Commission, "Regulation of Electricity Lines Businesses – Targeted Control Regime: Intention to Declare Control Transpower New Zealand Ltd", 31 January 2006, page 18 (emphasis added).

range, coupled with the backward-looking and inappropriate application (in Transpower's case) of total factor productivity analysis to set the company's X-factor, does not provide a reasonable basis for estimating an efficient price path.

"The basis on which the Commission has attributed excess profits to Transpower is fundamentally inappropriate. The Commission has used Transpower's price threshold to estimate excess profits by assuming that the level of any breach that cannot be "reconciled" must represent excess profits.

Implicit in the claim that Transpower has earned excess profits is an assumption that the threshold represents a reasonable proxy for an efficient price, and therefore that any revenues above this level that cannot be reconciled must necessarily be excess profits. The Commission provides no evidence that the threshold may be indicative of an efficient price, and does not appear to have justified why this may be an appropriate interpretation of the threshold."⁵¹

202. In practice, the threshold was set at a cyclical low in average transmission prices, as indicated in Figure 4.1 below. The point at which the threshold was established on this price profile is itself arbitrary, having not been based on a building block assessment and therefore without reference to the efficient price level.

⁵¹ NERA Report.

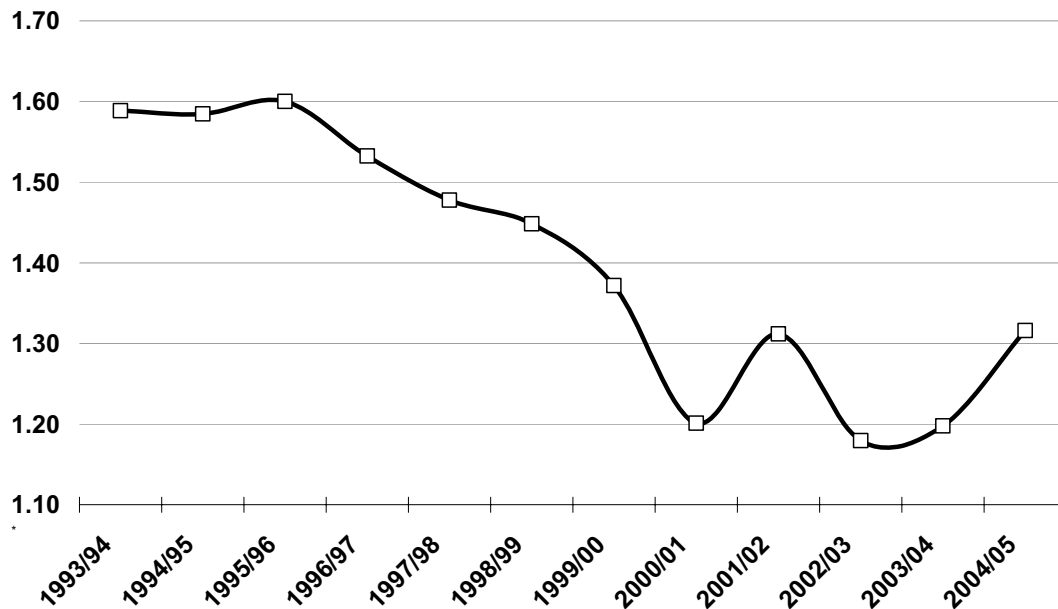


Figure 4.1: Average Transmission Prices (cents per kWh)⁵²

203. Transmission businesses experience lumpy investment profiles characterised by investments that are very large in relative scale. The need for large scale, but occasional investments is very difficult to reconcile with a price path threshold such as that established by the Commission for Transpower. In principle, there are many different price and revenue profiles that would be compatible with a business earning normal returns over a long period. However, the difficulty of achieving regulatory commitment over time makes problematic a revenue profile in which a business is constrained to earn less than its rate of return in the short term, with the promise of being allowed to earn higher returns in the future. For this reason, a building blocks approach provides the only satisfactory means of setting and assessing transmission prices. In its analysis, the Commission is not clear as to its preferred basis for determining efficient prices. The Castalia Report comments on this issue

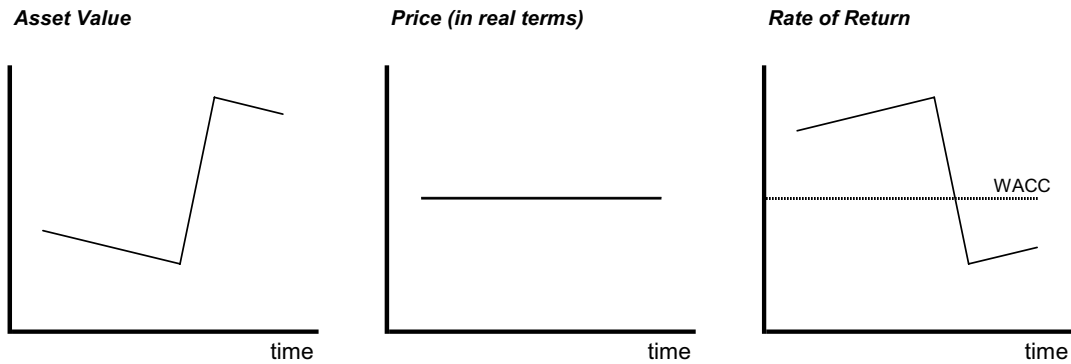
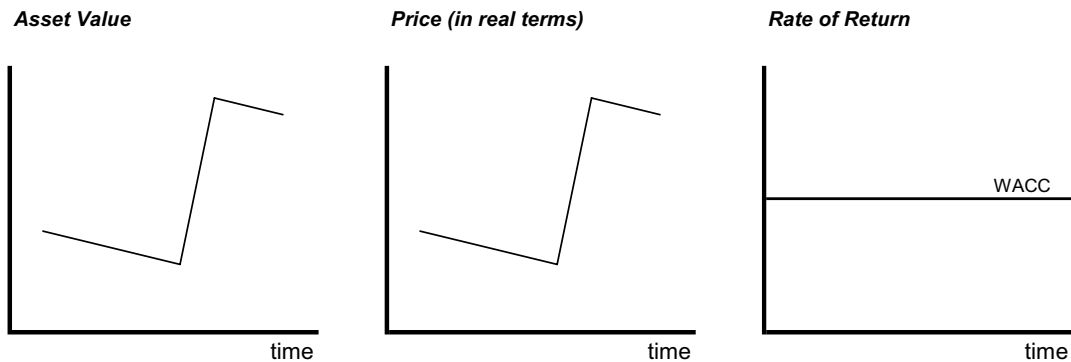
⁵² Estimated average transmission prices based on Transpower's transmission revenue divided by electricity transmitted. The increase in 2001/02 is caused by the financial impact of the settlement of the Meridian dispute over HVDC charges.

in considering the relative merits of prices and revenue based on LRMC and building blocks analysis.

204. The threshold approach to revenue setting, as applied by the Commission to Transpower, delivers constant or declining average prices in real terms. Revenues can only increase to the extent that there is quantity growth, but defining quantity is problematic for transmission. In fact, any single measure of "quantity" as a proxy for the transmission service will fail to recognise the complex, multi-dimensional nature of transmission services.

205. In contrast, a building blocks regime attempts to deliver a "constant" rate of return.⁵³ Revenues vary with changes in the building blocks costs. The difference between the two regimes is at its greatest just before and just after significant investment as illustrated in Figure 4.2 below.

⁵³ In practice incentive and risk sharing arrangements allow for some variation in the margin around an expected constant rate of return. The cost of capital may also vary with changes in market condition (e.g. interest rates).

Threshold Regime**Building Block Regime****Figure 4.2: Comparison of Threshold and Building Block regimes**

206. Under a threshold regime which aims to allow a business to earn WACC over time, businesses should be expected to be earning returns significantly above WACC for the period leading up to significant investment and significantly below WACC just after the investment. Under a building block regime, with constant expected returns, prices will be at their lowest just before significant investment and at their highest just after that investment.

207. Regulators cannot credibly commit to allowing businesses to earn above WACC returns in the future that will compensate for below WACC returns in the short term. As a consequence, applying the threshold approach in the manner adopted by the Commission in relation to Transpower is not appropriate. Transmission businesses are characterised by lumpy

investment patterns, assets with very long lives and high costs when investments occur. These characteristics result in periodic, but very steep increases in the asset base during periods of investment and a very slow decline in asset value following investment.

208. The Commission's approach of treating the threshold as a proxy for efficient prices without undertaking the necessary analysis is inconsistent with the section 57E purpose statement and will likely result in the threshold becoming a de facto form of control. Such an outcome is, therefore, also inconsistent with the conscious policy decision made by the Government to implement a light handed form of regulation.

4.4.2 The Need to use Building Blocks Analysis to Determine Excess Profits

209. In order to provide certainty and transparency in respect of the Commission's broad processes and analytical framework for assessing threshold compliance and for undertaking post-breach inquiries the Commission released its Assessment and Inquiry Guidelines in October 2004.

210. The Assessment and Inquiry Guidelines were issued following consultation with the industry and outlined the analytical framework proposed to be used by the Commission when determining whether to declare control of lines services, following a breach by a lines business. This included an efficient prices standard, which also involves a benchmark of the normal returns to be earned by the business.

211. The Assessment and Inquiry Guidelines indicate that there are two broad approaches the Commission would consider in determining efficient prices:⁵⁴

⁵⁴ Paragraph 139.

"The first involves benchmarking the lines business' prices against those of comparable services provided by other lines businesses. The other is to construct efficient prices using theoretical models [i.e. building blocks analysis]. These approaches are not mutually exclusive..."

212. The Guidelines do not anticipate the price path threshold as a means to assess efficient prices. This is consistent with the Commission's approach to the setting and design of the thresholds. For this reason, and as explained in the previous section, Transpower considers that the Guidelines are correct in not identifying use of the thresholds as a means to assess efficient prices.
213. A backwards looking building blocks analysis is the only satisfactory way of determining whether Transpower has earned excessive profits. The building blocks approach outlined in the Guidelines was used by the Commission in its post threshold breach inquiry of Unison Networks and its inquiry into airports and gas businesses under Part IV.
214. Transpower's view is that any assessment of Transpower's likely future pricing behaviour should also use building blocks analysis to determine whether excess profits are likely.
215. Transpower has sought independent analysis of its current and past pricing to assess whether it has been extracting excess profits. This analysis has confirmed that, on a backward looking building blocks analysis, Transpower has not earned excess profits during any of the assessment periods to date⁵⁵, consistent with the design and operation of the EV neutral revenue setting framework described in Section 3. Accordingly, no section 57E (a) or (c) concerns can be demonstrated.

⁵⁵ See PwC EV Report.

216. The Commission is not explicit as to the basis of its analysis by reference to the threshold price path. Paragraphs 143 – 190 analyse Transpower's prices by reference to the threshold price path under the heading "Potential Mitigating Factors to Explain the Breaches" and its conclusions are expressed by reference to excess profits. This suggests that the Commission's concerns are that Transpower's shareholder is obtaining a higher return on investment (i.e. profits) than would be provided by "normal" returns.
217. Transpower is aware that in the Unison Inquiry discussion paper the Commission notes (at paragraph 106) that even if a business is not earning excess profits its prices may still be above efficient levels if the business incurs inefficient operational costs. If so, it may be necessary to undertake a more in-depth analysis to estimate efficient costs and associated revenues.
218. If the Commission is in fact concerned that Transpower's "unexplained" threshold breach identifies inefficient costs, the Commission's Report is not explicit in this regard and accordingly it is difficult for Transpower to respond to an issue that is not clearly articulated, particularly in the timeframe allowed by the Commission for submissions on its Report. Assessment of the efficiency or otherwise of Transpower's costs requires a detailed and transparent process with reasonable opportunity for Transpower to understand the Commission's particular concerns and to respond accordingly. The Commission's Report does not provide this opportunity. The independent expert report of Peter Bradford also comments on this issue from a regulator's perspective.
219. In the absence of understanding any specific concerns the Commission may have about aspects of Transpower's costs, Section 5 provides a more detailed explanation of the cost increases that underpin the price increases which led to the threshold breaches than was provided at the time Transpower reported each of its breaches. Transpower notes that it

has, in the course of the Commission's post-breach inquiry, provided substantial quantities of information to the Commission much of which is relevant to the matter of the price increases and their explanation. Moreover, Transpower was specifically requested not to generate new information or analysis to satisfy the various Section 98 requests.

220. For present purposes Transpower makes the following additional comments in relation to the issue of efficient costs:

- For the same reasons why the price path threshold is not a satisfactory measure of efficient prices, it also does not provide a satisfactory measure of efficient costs. The Commission's own statement at the time of setting the price path threshold was that "there is insufficient information on which to establish a robust comparative approach to assessing Transpower's performance";
- To apply the threshold price path as a proxy for efficient costs can only result in a conclusion reached on insufficient evidence. This is supported by the Commission's own statement referred to above. It is also reinforced by those of Transpower's independent experts – NERA, Dr Bamberger, Mr Bradford, Castalia Ltd and CRA – that have considered this aspect of the Commission's Report from a range of different analytical perspectives.

221. Transpower is strongly of the view that the Commission cannot draw the conclusions it seeks to draw in its Report on the basis of the evidence available to it. In the absence of robust evidence on this point, the Commission cannot be satisfied that there are section 57E concerns as to excess profits or inefficient costs during the assessment period or likely on a forward looking basis.

4.4.3 Conduct Inconsistent with Part 4A and Part F

222. The Commission considers that there is evidence that Transpower's conduct may lead to outcomes inconsistent with the intent of both Part F of the EGRs and Part 4A of the Act.

223. The "evidence" referred to in support of this conclusion comprises observations in relation to:

- Transpower's 2006 prices (paragraphs 88-98 of the Commission's Report); and
- Transpower's application for approval of the TTUs (paragraphs 168-185 of the Commission's Report).

224. However, the Commission's Report does not clearly identify why the behaviour described at paragraphs 88-98 and paragraphs 168-185 is, or may lead to outcomes, inconsistent with the intent of Part F and Part 4A.

225. Before addressing the detail of the Commission's analysis in this regard, Transpower notes that the Commission's assessment of evidence at paragraph 118 is phrased in terms of "may lead to outcomes...". The first point to note is that before declaring control, the Commission must be satisfied that section 57(a) to (c) concerns exist and that, on the balance of probabilities, benefits of control are exceeded by the costs of control. There is no onus on a lines business which is the subject of a post threshold breach inquiry to demonstrate why control should not be imposed. An assessment that behaviour "may" lead to outcomes is an insufficient basis upon which to reach a determination in favour of control.

226. The Commission does not suggest that the behaviour discussed has resulted in outcomes inconsistent with the intention of Part F and Part 4A, but expresses this as a possible future outcome. In terms of the *Unison* decision, if no section 57E(a) to (c) concerns are demonstrated to exist in relation to the assessment periods under investigation, the inquiry ends.

227. Transpower's reading of the Commission's Report suggests the Commission is concerned that by including unapproved capital expenditure in its revenue requirement for 2006/07 Transpower may be making investments in large fixed and long lived assets that are not efficient and are not in the long term interest of consumers. (The matters discussed at paragraphs 88 – 98 and 168 – 185 of the Commission's Report are used to support the conclusions at paragraph 212 of its Report). It is from this conclusion that the Commission concludes control would achieve benefits through investment efficiency gains from application of the grid investment test and improved timing of investment.
228. Transpower considers the matters identified at paragraphs 88-89 and 168-185 do not provide a sufficient evidential basis upon which to draw these conclusions, both as a matter of logic and as a matter of fact.
229. Transpower comments below on the Commission's analysis at paragraphs 88-89 and paragraphs 168-185 of its Report.

2006/07 Prices

230. Paragraphs 88-89 of the Commission's Report comment on Transpower's prices and, in particular, Transpower's announcements of its 2006/07 prices.
231. Paragraphs 88 and 89 of the Commission's Report set out matters the Commission considers can be implied from a number of statements made by Transpower and from which the Commission reaches the conclusion that Transpower considers the 2001 Pricing Methodology entitles it to include any capital expenditure, whether approved under the Part F process or not, as part of its revenue requirement and supplant the investment approval process provided by Part F.
232. Paragraphs 90 to 98 outline the Commission's interpretation of the 2001 Pricing Methodology and conclude that Transpower must act consistently with the current GPS, the EGRs (Part F) and Part 4A in preparing its

business plan and its revenue requirement. The Commission relies on this conclusion to determine that matters identified in paragraphs 88 and 89 evidence outcomes inconsistent with the intent of Part F and Part 4A.

233. Transpower considers that this is an insufficient basis on which to draw these conclusions.

234. Transpower disagrees with how the Commission has sought to apply the principles identified by the Commission at paragraph 94 of its Report to reach the conclusions that form the basis of the Commission's intention to declare control.

235. In particular:

- A GPS has no force of law unless incorporated by reference in legislation. For example, section 172ZK of the Electricity Act requires the EC to give effect to the objectives and outcomes specified by the Minister in statements of government policy.
- While the GPS is a key roadmap for the EC for the development of Part F, within the framework established at its commencement, Part F must be read as it stands. The Commission must have regard to any statement of government policy issued pursuant to section 26 of the Commerce Act, but this does not mean that the GPS should be read in substitution for Part F. In particular, the GPS cannot be read to supplant aspects of Part F that have not yet been developed.
- The Commission's conclusions (as Transpower understands them) rely on its understanding of the intention of Part F, rather than any express requirement of Part F. The Commission relies on the GPS to derive the intention of Part F and to link this with Part 4A.
- There is no mandatory requirement in either the EGRs (Part F) or Part 4A that Transpower must act consistently with the GPS.
- The EGRs are principally relevant to Transpower's pricing by reference to the transmission pricing methodology to be developed

under section IV of Part F. Approval of grid investment under section III of Part F demonstrates unequivocally that such investment is appropriate and efficient.

- There is no provision in Part F that compels Transpower to only include approved investments in the revenue requirement used as the basis for determining prices in any particular year.
- Nor is there any such a mandatory requirement in Part 4A. As discussed above, the intention of the thresholds is to operate as a screening mechanism not a *de facto* form of control.
- The building blocks and EV adjustment pricing framework used by Transpower ensures that any capital expenditure component of Transpower's prices which is not approved or otherwise not expended is returned to customers.

236. Nor does Transpower agree that allowing it to include unapproved capital expenditure in the revenue requirement for its 2006/07 prices undermines the incentives for Transpower to assess and implement efficient investments such as to provide credible evidence of any of the concerns to which section 57E is addressed. The manner and extent to which future (and hence potentially "unapproved") capital expenditure is included in Transpower's revenue requirements and hence in customer prices, and why Transpower believes this does not give rise to section 57E concerns is discussed in more detail below.

237. In addressing this issue, Transpower first responds to the Commission's comment in relation to the 2001 Pricing Methodology and then comments on how capital expenditure is incorporated into its revenue requirement.

2001 Pricing Methodology

238. The Commission has questioned the extent to which Transpower must adhere to the requirements of the 2001 Pricing Methodology and draws the conclusion that Transpower's efforts to comply with the evolving

regulatory frameworks under which it must operate are evidence of conduct that may lead to outcomes inconsistent with the intent of Part F and Part 4A.

239. Transpower agrees it must act consistently with the Part 4A purpose statement in preparing its Business Plan and revenue requirement or face the risk of control. Transpower does, however, consider that the 2001 Pricing Methodology constrains, to some extent, its approach to setting its revenue requirement. The Commission appears to take a different view.
240. The issue at hand is not whether one or other interpretation is right but whether Transpower's behaviour in taking the approach it has is reasonable in all the circumstances, or whether it evidences a company "out of control" so as to justify and form the basis of a decision to impose control. Transpower considers that its application of the Pricing Regulations in the context of the evolving regulatory framework of Part F has been reasonable.
241. The next part of this section explains why Transpower's behaviour should be seen as reasonable and prudent and not contrary to the intent of either Part F or Part 4A.
242. The 2001 Pricing Methodology pre-dates both Part 4A and Part F. It was originally prepared by Transpower to inform its customers as to how their charges were calculated. At the time the revenue setting and allocation methodologies were essentially integrated. Accordingly, the 2001 Pricing Methodology refers to aspects of the revenue setting process as well as setting out the manner in which Transpower's revenue requirement was to be allocated amongst customers.
243. When it was drafted, the 2001 Pricing Methodology was not intended to create legally enforceable rights or obligations. It was published for information purposes and included information Transpower was required to disclose under the information disclosure requirements at that time,

including information about Transpower's revenue requirement. The 2001 Pricing Methodology was subsequently given statutory force, since which time Transpower has been required to apply the 2001 Pricing Methodology in order to be assured of revenue security. While this statutory enforcement of Transpower's prices was only ever intended to be transitory in nature, the regulatory framework established to replace the statutory mechanism has yet to be implemented.

244. The reasons behind the Pricing Regulations (and its predecessor section 19 of the Electricity Amendment Act 2001) are also relevant to explain Transpower's approach to interpretation of the 2001 Pricing Methodology. Statutory force was given to the 2001 Pricing Methodology as a result of ongoing controversy over enforcement of Transpower's prices. The manner in which the costs associated with the HVDC link have been allocated to customers has always been especially controversial. A dispute over this issue between Transpower and Meridian Energy in the late 1990s led to litigation and a court decision that Meridian Energy did not have to pay Transpower's posted prices. This dispute was of significant financial importance to both Transpower and Meridian.
245. The uncertainty arising from the court decision was seen to be an unacceptable policy outcome from an overall national interest perspective and, as a result, section 19 of the Electricity Amendment Act 2001 was passed requiring parties with assets directly connected to the national grid to pay for grid connection services in accordance with the 2001 Pricing Methodology.
246. In Transpower's view, the Pricing Regulations require Transpower to apply both the revenue setting and allocation components of the 2001 Pricing Methodology as a condition of enforceability. The definition of "methodology" refers to the pricing booklet, suggesting that the whole of the pricing booklet is given regulatory effect (i.e. both the revenue setting and allocation components of the pricing booklet). Regulation 4(2), which

requires customers to pay prices calculated in accordance with the methodology, should accordingly be interpreted to mean the revenue setting aspects of the methodology have legal force.

247. The only suggestion in the pricing regulations that the regulations are limited to allocation is regulation 4(1) which provides that Transpower must use the methodology for allocating Transpower's revenue requirement to individual electricity generators, electricity distributors, or consumers, or classes of any of those persons.
248. The fact that regulation 4(1) specifically refers to allocation is not inconsistent with application of the wider interpretation of "methodology" (encompassing both the revenue requirement and the allocation aspects of the pricing booklet) suggested in the regulation 3 definition and in regulation 4(2).
249. Transpower's view is that, read objectively, the Pricing Regulations extend to aspects of setting Transpower's revenue requirement detailed in the 2001 Pricing Methodology and therefore requires Transpower to apply a building blocks based approach to setting prices.
250. Transpower reads the Commission's Report as suggesting that the 2001 Pricing Methodology must be interpreted in light of the current GPS. If by this, the Commission is suggesting that Transpower cannot set its revenue requirement otherwise than by reference to the price path threshold, Transpower disagrees for the reasons already outlined. If the Commission suggests that the 2001 Pricing Methodology must be read down to omit any revenue aspects from being binding on Transpower, Transpower also disagrees.
251. While a statute is to be read in light of its context, this does not include extrinsic material that post dates the statute. Accordingly, the GPS does not form part of the context of either the Pricing Regulations or the 2001 Pricing Methodology. A brief chronology set out in the next paragraph

indicates that the GPS post dates both the Pricing Regulations and the 2001 Pricing Methodology.

252. The Pricing Methodology was first given statutory force by section 19 of the Electricity Amendment Act 2001, and then by way of regulation following the amendments to the Electricity Act by virtue of the Electricity Amendment Act 2003. The Explanatory Note for the Pricing Regulations notes that price enforceability was previously dealt with by the Electricity Amendment Act, indicating that it is a continuation of section 19. The definition of "transitional pricing methodology" in section 19 is equivalent to the definition of "methodology" in the Pricing Regulations. The Pricing Regulations took effect in April 2004, while the current GPS was published in October 2004.

253. It is clear from all of the above that there are differing views on the scope and application of the Pricing Regulations and the 2001 Pricing Methodology. While Transpower acknowledges that its approach may be perceived as conservative, a key factor in the approach taken by Transpower is that legal enforceability of transmission prices is of critical importance given the past propensity for customers to challenge the enforceability of transmission prices.

254. The need to maintain certainty of legal enforceability of transmission prices, and thus the need to follow the revenue requirement and allocation methodology, is a key reason why Transpower has continued to apply a building blocks approach to revenue setting. Not to do so would place the protection afforded by regulation 4(2) of the Pricing Regulations at risk.

Unapproved Grid Expenditure

255. The Commission appears to base its conclusions on Part F concerns by reason of Transpower including as capital expenditure items in its business plan anticipated grid investment which at the time the business

plan is signed off have not been approved by the EC and which therefore are incorporated into its revenue requirement.

256. For the reasons outlined below, Transpower considers that the Commission similarly cannot draw any such conclusions in relation to the inclusion of unapproved grid expenditure in Transpower's revenue requirement.

257. The Commission appears to link this issue with the approach taken by Transpower of ensuring compliance with the Pricing Regulations and the 2001 Pricing Methodology (to avoid any enforcement risk) as evidence to support (future) outcomes which may be inconsistent with Part 4A and Part F.

258. As discussed in more detail in Section 3, Transpower's business plan and therefore its revenue requirement for any particular year is based on forecast expenditure. This includes a forecast of capital expenditure. Forecast capital expenditure is estimated for those projects that are expected to be commissioned during the year and therefore which should be included in the closing operating capital base.⁵⁶ This is reflected in the revenue requirement.

259. In principle, this means that the amount of capital expenditure in the revenue requirement may include projects for which commissioning and/or EC approval is anticipated. In practice this forecast is inevitably going to differ from the actual outcome. To the extent that such variances arise, in the timing of commissioning or in receipt of EC, any amounts over (or under) recovered from customers in relation to that forecast expenditure is returned to the customer through the EV adjustment process and EVA charge.

⁵⁶ This then feeds into the calculation of average operating capital, being the mean of the opening and closing balances (refer Section 3).

260. There are a number of factors that exist at the moment which exacerbate uncertainties around amounts to be included as capital expenditure in the revenue requirement for any particular year. These are:

- The disconnect between the pricing year and Transpower's financial year;
- A contractual framework that was designed prior to Part F;
- The Pricing Regulations.

261. Transpower anticipates that most of these issues will be resolved with completion of the benchmark contract and transmission pricing methodology aspects of Part F. It would have been impractical for Transpower to seek to independently redress these issues in the course of the evolutionary progress of Part F (and prior to that, the EGB rulebook). The protracted time involved in the EC process for development of both of these is illustrative of the complexities that attach to these aspects of Transpower's pricing framework.

262. To assess Transpower's behaviour in attempting to balance these factors with the concurrent demands of Part F and Part 4A as evidence of behaviour that is inconsistent with either Part F or Part 4A would, in Transpower's view not only be contrary to the actual evidence but would be to extrapolate the effects of the incompleteness of Part F as a basis for section 57E concerns. In this regard, Transpower considers the following matters are all relevant factors which have not been taken into account by the Commission:

- Development of the benchmark contracts under section II of Part F and the allocation pricing methodology under section IV of Part F are essential and outstanding components of the Part F grid investment approval process;
- Pending implementation of benchmark contracts and a mechanism to incorporate price adjustments consequent upon EC approval, Transpower has to manage a transitional framework that includes

existing contractual arrangements, including posted terms as the primary contractual structure. Current contractual terms permit only annual price increases. The Pricing Regulations provide revenue enforcement but rely on strict compliance with the 2001 Pricing Methodology.

263. In respect of the 2006/07 price increase, of the operating capital forecast, included in the revenue requirement, \$49.8m is associated with expenditure relating to projects where approval has been sought from the EC but a decision is still pending. In addition, the average operating capital includes \$47.9m related to capital projects where approval has not yet been sought.

264. This average operating capital for these projects is summarised as follows:

Submitted for approval – EC decision pending

N.I. 400kV property acquisition	\$38.2m
Capital project expenditure (TTU / GDP)	\$11.6m

Not submitted or planned to be submitted to EC in early 2007

Auckland North Isthmus property acquisition	\$21.5m
Other capital / property related expenditure	\$26.9m

265. The net effect of this on the 2006/07 revenue requirement is \$10.7m or 2.2% of the total 19.1% price increase.

266. In arriving at the average operating capital employed figure, Transpower forecasts both the opening and closing balances (and planned expenditures) over a two year period. As a result this will necessarily include expenditure associated with projects which have yet to be finalised for submission to the EC. This is particularly the case for property acquisitions which typically are progressed at an early stage in a project's lifecycle.

267. As noted elsewhere, the inclusion of property acquired for the purposes of the North Island 400kV project, is in Transpower's view prudent and reasonable given the unique circumstances and timing issues relating to this project and the directive of the Minister of Energy and support of the EC. Similarly, the property rights acquired to allow future, efficient and visually amenable upgrade of the transmission network though Auckland is also highly prudent.
268. The assessment of "unapproved" capital expenditure itself relies on a definition of what investment must be approved by the EC. As discussed above, this definition in itself is somewhat uncertain. However, Transpower has used as a guide, the position set out in the 14 September letter from the EC ("Process and Content of Grid Upgrade Plan (GUP)).
269. To the extent that Transpower recovers revenues associated with investments that are subsequently not approved and do not enter the regulatory asset base, the EV process ensures that any excess returns are returned to customers over time.
270. Given Transpower's overall position and approach, including the operation of the EV adjustment framework to address variances in forecast and actual expenditures, Transpower does not accept the position put forward by the Commission in respect of pre-funding of investment and moreover strongly disputes the Commission's claims in paragraph 227 of the Report that Transpower's behaviour will have serious market distortions.
271. What Transpower includes in its business plan is necessarily a forecast. The accuracy of that forecast will reduce the further into the future outcomes are predicted and the more those plans involve investments which are subject to exogenous factors (not just EC approvals but also achieving consents under the RMA). What goes in Transpower's plans does not alter the investment decision process or how Transpower approaches investment approvals by the EC under Part F.

Transpower's Application for Approval of the TTUs

272. The Commission's analysis at paragraphs 168-185 focuses on Transpower's correspondence with the EC in relation to whether approval of its TTU projects is required under the transitional approval provisions of section IV of Part F and eventual application for approval.
273. The Commission concludes at paragraph 187 and 188 of its Report that Transpower could have operated within its price path threshold and still undertaken the expenditure associated with its TTU project. This in itself does not support a conclusion that Transpower's future conduct may lead to outcomes inconsistent with Part F or Part 4A.
274. In relation to Part F, Transpower considers that these paragraphs demonstrate its commitment to the Part F approval process. In relation to Part 4A, Transpower considers that these paragraphs demonstrate the uncertainties as to how the EC and Commission's respective decision making process would interact in the absence of a MOU clearly setting this out. Paragraphs 168 – 185 of the Commission's Report do not discuss conduct that is indicative of future behaviour inconsistent with the intention of either of these regulatory frameworks.

Conclusions on Conduct Inconsistent with Part 4A and Part F

275. Transpower has at all times been conscious of the need to reconcile the requirements of Part F and the Pricing Regulations with the incentives and behaviours sought by the Part 4A regime. However, in determining its behaviour, Transpower has had regard to the statements by the Commission in developing and setting the price path threshold (as a screening mechanism) and in the Guidelines and has relied on these in assessing its overall compliance with section 57E. Moreover, the nature of the EV neutral revenue setting framework (and Transpower's rigorous application of it, demonstrated by the past trends of ROI vs. WACC), are

essential context to considering Transpower's compliance with the section 57E purposes.

276. In the context of all of the above, Transpower considers that the Commission cannot appropriately draw any conclusions that Transpower's approach to revenue setting by reference to the 2001 Pricing Methodology or the TTUs demonstrates outcomes inconsistent with Part F and Part 4A, nor can it use this as a basis to infer likely future outcomes. Accordingly, no section 57E(b) concerns can be demonstrated to exist by reference to paragraphs 88-98 and 168-185 of the Commission's Report.

277. The Commission considers that there is evidence that absent control, Transpower's conduct would be less likely to result in efficient outcomes consistent with the purpose statement of Part 4A, as the company appears to be attempting to pre-fund its yet to be approved investment programme.

278. The Commission refers to paragraphs 191 – 216 of its Report in support of this conclusion.

279. Paragraphs 191 – 197 outline the counterfactual and factual used by the Commission in its net benefits analysis, while paragraphs 198 – 201 outline Transpower's investment plans. There is nothing in any of these paragraphs which provides any evidence of conduct from which the Commission could predict future pre-funding.

280. Transpower therefore assumes that the evidence relied on by the Commission is that set out in paragraphs 202 – 209, which discuss Transpower's announced future prices, and paragraphs 210 – 216, which discuss the effect of Transpower's behaviour on efficiency. Transpower discusses these paragraphs in more detail below.

281. As a preliminary point Transpower notes the "evidence" referred to by the Commission in these paragraphs goes to conclusions and assessment of likely future concerns and does not demonstrate existing concerns.

Furthermore, Transpower considers the matters identified in these paragraph do not substantiate any section 57E concerns.

282. At paragraph 202 the Commission notes that as at 21 December 2005 the EC had only approved \$6.3m in preparatory expenditure in relation to the HVDC Upgrade project and that this level of expenditure approval would not support Transpower increasing prices by 19%⁵⁷. This conclusion, as does paragraph 203, relies on an inherent assumption that Transpower may only increase its prices above the threshold price path for approved expenditure. For the reasons discussed above, Transpower disagrees with this assumption.
283. Paragraphs 202 and 203 also suggest that the Commission's conclusions rely on the further assumption that a price increase per se (i.e. above the threshold price path) is sufficient evidence in itself to demonstrate purpose statement concerns and that it is for Transpower to then establish why control should not be imposed.
284. This is inconsistent with *Unison* both as to there being no onus on the lines business under investigation to establish why it should not be subjected to control and the Commission's acceptance (at paragraph 64 of the judgment) that a price increase is not of itself a bad thing in terms of section 57E purposes. Whether a price increase is good or bad depends on a number of factors, including what the starting price was, how big the increase is and whether the increase reflects increased costs.
285. In this case, the Commission has only assessed Transpower's costs against the threshold price path but has not conducted a building blocks or other analysis to assess the appropriateness of Transpower's prices against the section 57E purposes. In the absence of having done this analysis, the Commission cannot rely on the conclusions reached at

⁵⁷ A full description of the current status of EC investment approvals is provided in Section 6.

paragraphs 202 and 203 as the basis for a decision to declare control or as to benefits that may be derived from control.

286. As set out in Section 6 of this submission, the 19% price increase has been driven by a number of factors, and is largely not attributable to expenditure that would be approved under Part F.

287. Even where expenditure can be approved under Part F, a building blocks approach to revenue setting and Transpower's current contractual framework mean that it will in some circumstances enter Transpower's revenue requirement prior to approval, in accordance with the processes laid out above.

288. As already outlined, Transpower determines its revenue requirement using a building blocks approach. The various building blocks are calculated annually using forecast information contained in Transpower's business plan. This information assumes a level of EC approval. This means for example, that some of the capital expenditure forecast in the business plan will relate to investments that are expected to be approved during the pricing year, but which have not, at the time the business plan is signed off by Transpower's board, been approved under part F.

289. For a variety of timing related reasons (including uncertainties as to time taken by the EC to consider a GUP) this expenditure may enter the revenue requirement and be incorporated as part of Transpower's prices prior to EC approval.

290. In the event that EC approval is not obtained and/or estimates of capital are overstated, the resulting over-recovery, in common with other operating variances will feed into the EV customer account and be returned through the EV adjustment charge.

291. At paragraphs 204 and 205 the Commission notes apparent differences between the timing of projected capital expenditure in Transpower's 2005/06 business plan and that presented in the initial grid upgrade plan

and appears to rely on these discrepancies, as well as paragraph 206, as the primary evidence that Transpower is seeking to pre-fund capital investments.

292. There is no inconsistency between Transpower's 2005/06 Business Plan, in relation to investment forecasts for the 400kV NI transmission line, and that presented in the initial grid upgrade plan (para 205) in this respect. The timing and amount of the dollars in the North Island 400kV Upgrade Project Investment Proposal and the 10 year Capital Expenditure on page 70 of 05/06 Business Plan are consistent.
293. The confusion arises due to a presentational error in the table on p80 of Transpower's Business Plan. The three year detailed phasing on page 80 of the 05/06 Business Plan is incorrect as it was not updated to reflect the investment proposal. However, the numbers on page 80 were for information purposes only and hence do not impact on any total capital or projected revenue numbers.
294. For the reasons canvassed throughout this submission, the inclusion of these capital expenditure items in the business plan and revenue requirement does not, as a matter of fact, enable Transpower to receive and retain unexpended capital expenditure forecasts. There is no pre-funding of capital expenditure to support the conclusions the Commission then draws at paragraphs 210 and 212-216. These differences simply reflect the fact that the grid upgrade plan was prepared some five months after the 2005/06 business plan, and therefore contains more accurate forecasts of the relevant expenditure.
295. At paragraph 206 the Commission suggests that Transpower is now including land and easements associated with unapproved investments in its regulatory asset base immediately, rather than postponing the inclusion until the commissioning of the relevant asset, as has traditionally been the case.

296. Transpower has revised its policy in this regard to reflect the changing circumstances of its business operations. The revised treatment is that land and easements enter the regulatory asset base on EC approval or commencement of construction of the asset to which the land relates, whichever is earlier. This revised treatment is consistent with standard accounting principles, ODV principles and the Commission's decision in the Auckland Airport inquiry.

297. As explained in Section 6, land and easements associated with the North Island 400kV line and the planned future investment in Auckland are included in the average operating capital used for calculating the 2006/07 revenue requirement and thus contribute to the 19% price increases. In the event that these projects do not proceed the pricing impact of including them in the revenue requirements would be "reversed" via the operation of the EV customer account.

298. In paragraphs 210 – 216 the Commission reaches the conclusion that:

- The EC has not approved the planned investments upon which Transpower has calculated its prices (paragraph 210);
- Transpower is effectively seeking to pre-fund substantial investments that have not yet been subjected to regulatory approval framework (paragraph 213);
- Any pre-funding exercise will potentially have distributional consequences where today's consumers pay for investments that result in benefits for future consumers (paragraph 214);
- Additional revenue involved means that there is less incentive on Transpower to minimise costs and it may transfer risk from the company to consumer (paragraph 214); and
- Pre-funding provides Transpower with additional funds to proceed with the initial phases of investments that have not yet been approved, thereby artificially altering the costs and benefits of Transpower.

299. Transpower disputes the Commission's conclusions that the type of behaviour outlined in these paragraphs is likely in the future, based on Transpower's explanation of its revenue setting approach and behaviour outlined above and the previous section of this submission.
300. The discussion at paragraphs 204-206 in support of these conclusions only refers to the North Island 400kV project. Transpower can only assume, therefore that the Commission considers this project indicative of likely future behaviour. Transpower does not agree that its approach to approval/implementation of the North Island 400kV project is, or can be regarded, as illustrative of section 57E concerns currently or in the future.
301. Transpower has identified a number of proposed grid investment projects. To identify one as illustrative without consideration of how the others have been approached is insufficient to meet the requirement for control that the Commission be satisfied on the balance of probabilities that there are section 57(a) to (c) concerns and that there are net benefits to control being imposed. It also ignores the particular factual circumstances of the North Island 400kV project.
302. As outlined above, although unapproved expenditure (falling within the ambit of the EC approval process) may, as a consequence of forecasting operating capital movements, enter Transpower's revenue requirement, this does not mean that the expenditure will be incurred. In circumstances where forecast capital movements do not eventuate (for example because EC approval is not obtained), this will be reflected in the future operating capital base and, as a result of the operation of the EV customer accounts, customers will not bear any cost of the unapproved "investment".
303. Looking forward, Transpower only intends to incur such expenditure and recover the costs from customers once it has received EC approval. The fact that Transpower will not actually incur any expenditure until it has obtained EC approval, means that any unapproved investment included in the revenue requirement will not have any impact on the incentives faced

by Transpower to minimise costs or result in the transfer of risk from the company to consumer. Nor will it influence the operation of the grid investment test.

4.5 Timing of Recovery of Costs

304. Transpower is unclear as to the Commission's concerns about the timing of the recovery of the costs associated with investment.

305. Transpower believes that feasibility work should be expensed as it occurs, consistent with standard accounting treatment. The alternative would be to capitalise operating costs. It is difficult to see why or how this would improve efficiency. Capitalising such costs would increase the price shock when projects finally enter the regulatory asset base and would be at odds with generally accepted accounting practice⁵⁸.

306. Transpower does not accept that it should bear the costs of such studies for projects that do not go ahead. This would result in Transpower consistently under recovering its cost of capital. In competitive industries, businesses expect to earn a WACC return after paying for the costs of feasibility studies. If Transpower were to bear these risks, Transpower would need to target and recover a return in excess of WACC to compensate for these risks. Such an approach is unlikely to be sustainable from a regulatory perspective.

307. Capital expenditure only enters the regulatory asset base once the relevant projects have been commissioned, in line with the ODV Handbook requirements. Transpower has made submissions to the

⁵⁸ The organisational capability increases that support the large capital projects are not part of the specific costs of putting assets in place and so are not part of the capital costs of those assets, accordingly as operating expenses they are recovered as incurred consistent with the building blocks approach. Transpower's methodology in respect of these matters has been consistent over a number of years and in line with other corporations and generally accepted accounting practice.

Commission that it believes that, in future, it should be allowed to bring works under construction into the asset base to relieve balance sheet pressures during the period of intense construction, and thereby lower the overall costs to the consumer from reduced funding costs. However, Transpower would not implement such a change without the endorsement of the Commission, in conjunction with an approved asset valuation methodology.

5 TRANSPOWER'S RECENT BEHAVIOUR

5.1 Introduction

308. This section explains the practical application of Transpower's revenue setting methodology, described in Section 3. It demonstrates that, consistent with the intention of the methodology, Transpower has not earned excess profits in the past.
309. In addition, this section outlines the factors driving increases in Transpower's revenue requirement for 2004/05 and 2005/06, that led to breaches of the price thresholds, and which the Commission believes have not been adequately explained to date.
310. The focus is on providing further detail and explanation of the underlying factors that led to increases in notional revenues and hence to the breaches of Transpower's price path thresholds at the second and third assessment dates. These explanations should be read in conjunction with the Threshold Compliance Statements themselves, which provide a precise reconciliation as the magnitude of each breach, with reference to the increases (and decreases) in the charge(s) for each "specified service".
311. Rather than repeat that reconciliation, in this Section Transpower has sought to provide the explanation of the underlying factors that ultimately give rise to the increases in charges for specified services, by reference to increases in the cost and scope of Transpower's provision of transmission asset owner services and system operator services.
312. The explanations themselves are complicated by the change between the Gazette Notices for the second and third assessment periods which required Transpower to change its presentation of notional revenue from a post- to a pre-EV (economic value) basis.

313. Transpower's pricing methodology explicitly ensures that, over time, Transpower does not earn excess profits. Analysis of Transpower's past returns indicates that its actual returns have been below its cost of capital on average over a long period.
314. Transpower's building blocks costs and hence prices have increased significantly over the past two years. The main contributions towards Transpower's price increases are the increased costs associated with investigating investment options and the feasibility of preferred investment options, plus other cost increases related, inter alia, to the evolving regulatory regime.
315. Transpower is not pre-funding future investments although, consistent with generally accepted accounting practice, feasibility studies (investigations) relating to investment are expensed as they are incurred. Under the revenue requirement methodology these costs are recovered in the year expended.

5.2 Transpower's Returns have not been Excessive

5.2.1 Introduction

316. Transpower's view, supported by expert testimony,⁵⁹ is that price (and associated revenue) increases in excess of those allowed by the thresholds indicate only that Transpower has not operated within the thresholds. They do not demonstrate excess profits. Because the Commission has not demonstrated that the thresholds correspond to efficient prices, it cannot conclude that a breach would result in excess profits.
317. The most direct measure of excess profits is that adopted by the Commission in its other control inquiries calculated as follows:

⁵⁹ For example refer to the submissions, Bamberger, G., "Submission of Gustavo Bamberger", February 2006 and NERA, "Declaration of Control of Transpower", February 2006.

$$\text{Excess returns} = \text{Net earnings} - (\text{operating capital} \times \text{WACC}).^{60}$$

318. As explained in more detail below, Transpower's methodology is explicitly designed to ensure, in line with the Commission's formula, that Transpower's net earnings deliver over time a return equal to its cost of capital on its operating capital i.e. it specifically targets zero excess returns. Assessment of Transpower's return on investment (ROI) confirms that Transpower has not made excess returns, despite its past breaches of the thresholds.

319. Transpower's return on investment and Transpower's economic value results are explained further below. Additional information can be found in an independent expert report prepared by PricewaterhouseCoopers (PwC).⁶¹

5.2.2 Return on Investment

320. PwC calculated Transpower's ROI from 1995 until 2005 based on Transpower's audited lines business disclosures pursuant to the Information Disclosure Regulations. PwC compared the ROI with Transpower's WACC to determine if excess profits had been made.

321. The ROI was calculated using two approaches. The first included all revaluations and the second included only the revaluations attributable to customers. PwC's analysis indicates that Transpower has over time not generated a ROI greater than its WACC.

⁶⁰ Commerce Commission, "Gas Control Inquiry Final Report", 29 November 2004, p 6.19.

⁶¹ PricewaterhouseCoopers, "Development and Application of EV Methodology to Revenue Setting", February 2006.

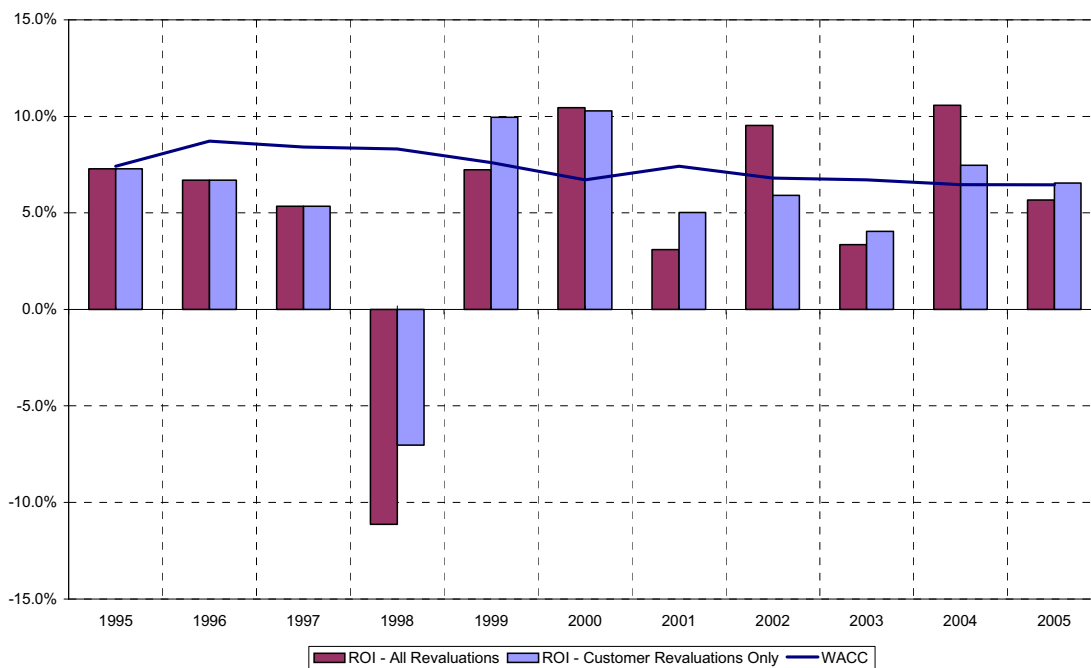


Figure 5.1: ROI Trends (Source: PWC (2006))

322. Figure 5.1 shows that Transpower's ROI has in some years been below the WACC and in other years above. Given that prices are based on inherently uncertain forecast figures, it is not surprising that in some years the ROI is above the WACC and in other years below. The cumulative average growth rate ROI of 5.0% (including all revaluations) is well below the cumulative average growth rate WACC of 7.4% over the analysis period.

323. When the large, negative ROI in 1998 is excluded,⁶² the cumulative average rate of return over the period increases to 6.8% (including all revaluations) but is still below the average WACC of 7.4%. If the customer revaluations (excluding the 1998 devaluation) are included alone, then the cumulative average rate of return decreases to 6.6%.

324. It should be noted that Transpower's targeted (and achieved) WACC is generally at or below the mid point WACC the Commission adopted for the

⁶² The 1998 ODV saw a significant net reduction in the value of transmission system fixed assets due to revised replacement costs and optimisations.

electricity lines businesses as part of its assessment and inquiry framework.

325. The conclusion that can be drawn from the above is that Transpower has not been making excess profits. As noted in the PwC report (and in the Commission's own analysis in past control inquiries), ROI is a useful measure. However, ROI does not quantify, in dollar terms, the extent of any over or under recovery of excess returns. This is provided by the assessment of economic gains/losses.

5.2.3 Economic Return

326. As described in more detail in Section 3, Transpower prepares Economic Value Statements which quantify the magnitude of any over or under recovery of returns. Any over or under recovery that is attributable to customers feeds into future years' prices over the medium term, using the customer economic value account and associated EV charges. This mechanism is described further in Section 3. Transpower has been using this economic value approach since 1999 to ensure that any over or under recovery is quantified and passed on to, or sought from, customers.

327. By adhering to this process Transpower has operated a regime that explicitly ensures that it does not earn excess profits over the long term. PWC states:⁶³

“Through the application of the economic value self regulatory approach, it has not been feasible for Transpower to generate economic gains for its shareholders at the expense of customers.”

⁶³ PricewaterhouseCoopers “Development and Application of EV Methodology to Revenue Setting”, February 2006.

5.2.4 ODV, WACC and Operating Costs

328. Unlike some other lines businesses, Transpower has taken a very conservative approach to the implementation of ODV, which has contributed to an under-recovery of investment returns.

329. Transpower has optimised out approximately 15% of its asset base, compared to around 1% for most distribution businesses. The costs of this optimisation have been borne by Transpower and not by its customers.

330. Furthermore, the ODV rules result in Transpower under-recovering in several areas on an ongoing basis. This arises because:

- Transmission asset replacement costs are, in Transpower's view materially understated – the Commission's handbook has not been updated in this respect since 1998;
- In practice, most asset investment is undertaken on a piecemeal rather than a large scale basis. The resulting difference between higher actual costs and lower ODV building block costs results in under recovery on many grid investments. Transpower notes that this issue was also raised in the Unison inquiry;
- Investment in insulators and conductors is written off because the ODV rules stipulate that the age of a transmission line must be based on the age of the towers/poles. Insulators and conductors represent approximately 45% of the value of transmission lines;
- Some optimisations, such as the replacement of transmission lines with substation equipment, that would in theory result in a more efficient grid, cannot be implemented in practice;
- To ensure a reliable system Transpower must refurbish and replace optimised out transmission assets, even though it receives no return on such expenditures;

- Efficient investment does not always result in a commensurate return. For example, a tactical upgrade of a transmission line (where a conductor is up-rated) produces a minimal increase⁶⁴ in the building block value, but costs a significant sum and provides a highly efficient form of investment. Such upgrades can delay more significant new investment (such as new transmission lines) by several years.

331. In summary, the true value of its operating asset base is, in Transpower's view, materially understated. The nature of the ODV methodology is such that systematic under-recovery is inevitable, yet the return that Transpower has sought to recover (based on recovering a WACC return only) does not fully compensate for these risks.

332. Transpower would be justified in targeting a return set at a margin above WACC to compensate for its exposure to optimisation risk. This latter treatment, of targeting a return of a margin above WACC, in conjunction with the application of ODV, has previously been acknowledged by the Commission's advisor,⁶⁵ as well by the Commission itself.

333. Transpower might have considered adjusting its approach to revenue setting to take these factors into account. However, Transpower recognised the Commission's intention to allow lines businesses to move away from ODV to a historical cost-based valuation approach which should address some of these issues. In addition, Transpower has been constrained in its ability to adjust its revenue setting approach, given the legislative and later regulatory enforcement of the 2001 pricing methodology.

⁶⁴ Per Tactical Transmission Upgrade Board paper, 30 Sept 2003; spend of \$24m for an uplift in the ODV of \$9m.

⁶⁵ Associate Professor Martin Lally, "The weighted average cost of capital for electricity lines businesses", September 2005, p98.

334. In relation to other building block costs, it should be noted that Transpower has a number of systems and processes in place to ensure its costs are efficient. For example, Transpower uses benchmarking to monitor cost and service trends and to highlight areas of potential inefficiency (see Section 7 for more detail).

5.3 Transpower's Revenue Requirements⁶⁶

5.3.1 Introduction

335. Transpower's decision not to adhere to its price path threshold has not been taken lightly. However, Transpower's view is that the building blocks approach was, and still is, the most appropriate way of meeting the various (and sometimes conflicting) aims and goals of the shareholder, regulators and customers. Moreover, as discussed in Section 4, Transpower is, in any event, obliged to adopt a building block based approach in order to ensure enforcement of its pricing methodology.

336. Transpower has applied a building block approach to revenue setting for over ten years. In continuing to adopt a building blocks approach, Transpower has been mindful of the following points:

- Transpower is responsible for ensuring secure and reliable transmission services;
- Transpower's responsibilities under its SCI and the SOE Act are to earn a commercial rate of return. The expectation of the GPS is that Transpower will recover its full economic costs, subject to the Part 4A regime;
- The operation of the EV customer account ensures that over time Transpower cannot earn excess returns;

⁶⁶ It is important to note that the following section focuses on the revenue and associated price increases for transmission (asset owner) services. Where appropriate, changes to the fees (notional revenue) for system operator services are also discussed.

- Transpower believes its revenue setting approach is consistent with the purposes of the targeted control regime as set out in 57E of the Commerce Act and accords with the Commission's own approach in assessing excess returns in its control inquiries;
- The Commission's Assessment and Inquiry Guidelines indicate that excess profits will be assessed by the Commission by reference to a building blocks based ROI assessment;
- The threshold price path was established as a screening mechanism and not intended as a form of control in itself.

5.3.2 Factors Driving Transpower's Costs

337. Looking forward, over the next ten years, Transpower must invest heavily in the grid in order that transmission services remain secure and reliable. This investment necessitates a significant capability build to ensure that Transpower has the resources in place to undertake this significant build work.

338. The current and expected investment by Transpower will impact the building block costs in the following ways:

- Indirect operating cost increases. Transpower needs to build the capability of the organisation as it moves from a period of no significant asset build to substantial investment;
- Direct operating cost increases. Transpower needs to undertake engineering and environmental studies of the proposed investments as well as prepare proposals to the EC for approval and comply with other regulatory requirements; and
- Capital expenditure increases.⁶⁷ This will result in a higher regulatory asset base increasing the overall return required.

⁶⁷ The most significant capital increases will be dependent upon EC approval.

339. Transpower's transmission charge increases over the past two to three years have come largely from rises in direct and indirect operating costs related to investigation and consultation work in preparation for investment. Other costs, such as insurance, and those relating to the burden of the regulatory regime, have also increased materially.

5.4 The Price Threshold Breaches

5.4.1 Commerce Commission's Calculation of Threshold Breaches

340. Transpower does not accept the Commission's position that threshold breaches indicate excess profits.

341. For each of the three previous breaches Transpower provided explanations to the Commission, by way of explanatory memorandum. It has since met a number of Commission requests for additional information (under Section 98 notices) as part of the Commission's post breach inquiry.

342. Transpower expected the Commission would seek further details to satisfy itself as to the reasons for the threshold breaches, especially once the Commission's post-breach inquiry was underway.

343. Transpower's breaches of the thresholds have been variously calculated as follows (Table 5.1):

Year	Transpower Reported (\$m)	Commission Estimates ⁶⁸ (\$m)	Transpower's restatement of Commission Estimates ⁶⁹ (\$m)
2003/04	1	-	-7
2004/05	68	14	13
2005/06	43	36	19

Table 5.1: Comparison of Breach Estimates

344. The Commission, based on work undertaken by NZIER, has adjusted Transpower's breach calculations taking into account changes in "quantity". Transpower does not agree conceptually with the approach adopted by NZIER and believes that the company's threshold compliance statements are appropriately prepared.⁷⁰ Notwithstanding these reservations, in Transpower's view, the volume adjustment calculation presented by NZIER is inconsistent in its treatment of the \$17m rebate to HVDC customers in the 2005/06 pricing year. Correcting for this inconsistency reduces the 2005/06 breach as reported by the Commission by \$17m from \$36m to \$19m. Further information on this issue is provided in Appendix 2.

345. Different approaches to estimating the breaches generate different numbers. In Transpower's view the actual numbers are somewhat irrelevant and arbitrary, given the threshold itself is set at an arbitrary level that imputes nothing about an efficient level of prices.

⁶⁸ The Commission's preferred assessment taken from NZIER's analysis.

⁶⁹ Transpower has "restated" the Commission's breach figures - refer to Appendix 2 for further details.

⁷⁰ As discussed in previous sections of this submission, Transpower remains of the view that its revised approach to the price path threshold (adopted after consultation with the Commission) was acceptable to the Commission. Appendix 1 and an accompanying report by PwC elaborate further on this matter. PricewaterhouseCoopers, Audit of Threshold Compliance Statements, February 2006.

346. Transpower believes the Commission's focus should be on the prudence and efficiency of the building block costs incurred in generating Transpower's revenue requirements and understanding the differences between actual revenue recovered and the original revenue requirement.
347. Any assessment of revenue movements is complicated by the fact that the revenue requirement is set in July (at the time of approval of Transpower's business plan) to apply to prices from the following 1 April. To align the revenue and pricing period with the costs incurred requires that the revenue requirement is set using the first prospective year of the business plan.⁷¹ This approach places high reliance on forecasts and budgeted costs. These timings are dictated by the regulatory, financial reporting and contractual constraints under which Transpower operates.
348. Further, it is noted that the net changes in the individual revenue building blocks from year to year derive from a complex interplay of individual cost movements, with cost increases in some areas being netted off by corresponding decreases in other. Attributing the movement of specific costs elements to the "cause" of a threshold breach, is therefore inherently difficult, and reconciling \$ for \$ changes in notional revenue to a calculated breach value even more so. As noted in the introduction to this Section a precise reconciliation of movements (with reference to charges for each specified service) can be found in the threshold compliance statements.
349. In the case of explaining the 2005/06 breach this is compounded by the fact that when considering the explanations for movements in revenue for that year, consideration must also be given to explanations for the cost movements in the prior year (2004/05), as cost increases are recurring in subsequent years. This is particularly the case in relation to expenditure associated with capability development which is described further below.

⁷¹ For example, prices to apply from 1 April 2006 are set based on the 2005 business plan approved in July 2005, using the cost forecasts for year 2 of the business plan (i.e. costs for the financial year from 1 July 2006 to best align with the corresponding pricing year).

In this submission Transpower has focused on explaining the basis for significant upward movements in both forecast and actual costs, year on year. Explanations provided for 2004/05, for certain cost elements, flow through to the 2005/05 revenue requirement.

5.5 The 2004/05 Breach Explained

350. It is Transpower's view, that the appropriate way to understand the circumstances of a threshold breach (consistent with the Commission's Assessment and Inquiry Guidelines) is to understand:

- Firstly, the movements in the underlying building block costs that give rise to the increases in revenue requirement (for transmission asset owner services);
- Secondly to consider any additional costs recovered from customers within the actual revenue recovered (including charges for system operator services) during the year, which together with the charges based on the forecast revenue requirement comprise Transpower's notional revenue as reported in the Compliance Statement; and
- Thirdly, relate the notional revenue recovered (and the various cost component increases as described) to the price threshold and calculated breach.

351. The reasons for the increase in the notional revenue reported for the 2003/04 to 2004/05 period and, by extrapolation, an explanation of the stated breach is set out below.

5.5.1 The 2004/05 Revenue Requirement Building Blocks

352. This sub-section sets out the reasons for the increase in revenue requirement for the 2003/04 to 2004/05 period.

353. The revenue requirement⁷² for 2004/05 (i.e. as applied in prices from 1 April 2004) was \$483m, compared with the revenue requirement in the previous year of \$474m (pre EV adjustment). This overall net increase in the revenue requirement of \$9m can be explained, with reference to the relative movements of the revenue building blocks, in Figure 5.2 below:

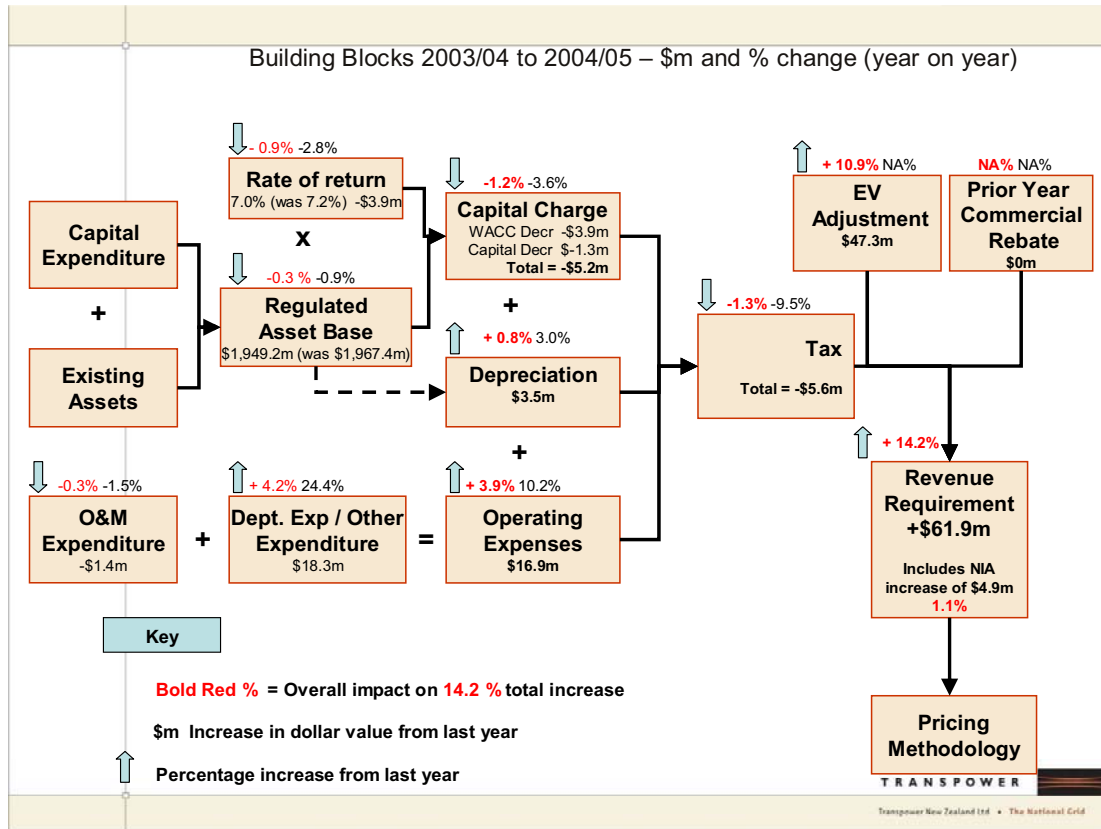


Figure 5.2: Changes in Revenue Requirement Building Blocks 2003/04 to 2004/05

354. The breakdown in Figure 5.2 shows that the net increase in revenue required (in relation to transmission owner charges) for the period results from a decrease in certain building block costs (e.g. capital charge and taxation) and an increase in others. The more material increases in costs affecting the revenue requirement for the 2004/5 pricing year are summarised below:

Economic Value adjustment charge	+\$47m
Investigation work relating to grid upgrade	+\$14m

⁷² Excluding New Investment Agreement Income.

Higher insurance premiums	+\$3m
Increased charges relating to industry (EC) levies	+\$2m

355. The latter three cost increases are captured in the departmental/other expenditure building block illustrated in Figure 5.2.

Revenue Requirement Increases in Detail

356. We set out below a more detailed explanation of the movements in each of these revenue building block components.

EV Adjustment

357. The reduction to zero of the EV adjustment charge, results in a revenue requirement increase of \$47m.⁷³

Increase in Investigations

358. In 2003, prior to the EC being established, Transpower initiated a programme of work to address the issues associated with an ageing and constrained grid coupled with a forecast significant increase in demand in the years ahead (the "System Vision" project). The introduction of the System Vision project represented a "step change" in activity from previous years. It was by far the largest project of its type that Transpower had undertaken in the ten years prior to 2003, and was the pre-cursor to the major grid upgrades that have been proposed to the EC in the 2005 Grid Upgrade Plan.

359. During the period 2003/04 to 2004/05 Transpower committed resources and developed capabilities to undertake a programme of investigations to plan for the System Vision (GUP) programme.

⁷³ In determining the revenue requirement for the 1 April 2004 pricing year, Transpower reduced its operating capital by \$58 million being the expected balance of the EV customer account at 30 June 2004 (so as to reduce the balance to nil). Because of this, the EV adjustment charge to customers was zero.

360. The substantial increase in operating expenditure in the 2004/05 revenue requirement, mainly reflects this preparatory investigative work.

361. Irrespective of the fact that the EC investment approvals process under Part F was not in place at the commencement of this work, investigation, planning and project feasibility work by necessity has to be undertaken somehow in advance of seeking formal approval for “defined” capital investment projects. The investigation process includes engineering and system planning work to identify the need for investment, identify possible transmission and non transmission alternatives and the selection of preferred solutions to provide long term security of supply. Investigation work also extends to the economic evaluation or cost benefit assessment of different solutions. The investigation process in certain circumstance also requires the allocation of resources to assess environmental, property and local engineering issues.

362. It should be noted that investigations expenditure does not include any capital costs. Transpower “expenses” feasibility costs (or investigations) consistent with financial reporting standards.⁷⁴ In other words, feasibility costs are recovered as they are incurred.

363. Transpower believes that, given emerging grid constraints and demand projections, it was incumbent upon Transpower as a reasonable and prudent Grid Operator to undertake the System Vision project and to commit the appropriate level of resources to develop the future plans for upgrading the grid.

⁷⁴ Transpower’s approach is consistent with Financial Reporting Standard 3: Accounting for Property, Plant and Equipment. The standard states “The cost of an item of property, plant and equipment does not include expenditure incurred in deciding whether the item should be acquired or constructed; for example feasibility costs or the costs incurred in evaluating a number of proposals for acquisition or construction. Such amounts are pre-acquisition costs and are never capitalised because they are not directly attributable to bringing the item to working condition for its intended use”.

Increase in Insurance Costs

364. Insurance charges increased by \$3m over the previous year. The 11 September terrorist attacks in 2001 caused a significant increase in underlying insurance rates. As a result of insurance costs being prepaid the first revenue requirement which was affected by these rate increases was the 2004/05 revenue requirement (set in the 2003/04 business plan).

Increase in Industry (EC) Levies

365. Transpower anticipated an increase in industry charges was likely, given the decision to establish the EC. The 2004/05 revenue requirement reflected this.

5.5.2 Actual Revenue Recovered in 2004/05

366. Customer charges for transmission asset owner services for any particular pricing year are set on the basis of the forecast revenue requirement. The notional revenue actually recovered from transmission customers in any particular charging year can, however, be higher or lower than assumed, principally because of changes in peak demand at individual grid exit points during the course of the pricing year. This outcome is discussed further below.

367. In determining actual revenue for the 2004/05 year (as reported in the threshold compliance statement), the main additional changes, in addition to the increase in the revenue requirement for transmission asset owner services are summarised as follows (and explained further below):

Net increase in system operator charges	+\$3.4m
Interconnection charge over-recovery	+\$11.7m
Transitional rebates	+\$1m

Net Increase in System Operator Charges

368. In addition to the increases in transmission (asset owner) services revenue, Transpower increased revenue in respect of system operator services with the introduction of the System Operator Service Provider Agreement (SOSPA).
369. The introduction of the SOSPA from 1 March 2004 led to a re-specification of the “system operator” function and services and a resetting of fees for the re-specified service.⁷⁵ The SOSPA fees replaced income previously received by Transpower under a range of contracts and charging arrangements, including, in part under transmission contracts for the costs of security services associated with grid assets.
370. The net effect of the introduction of these arrangements and reallocation of charges was to increase Transpower’s income by a net amount of ca. \$3.4m. The net increase in annual industry charges reflected the increased costs to Transpower of managing its greater risks (including compliance costs) under the SOSPA (and EGRs) and the levelisation of these fixed nominal costs over the contract term.
371. The increase in system operator charges on a gross basis (i.e. excluding the re-allocation of charges between system operator services and transmission asset owner services) was \$7.4m, which was reported in the explanatory memorandum submitted in conjunction with the second of Transpower’s threshold compliance statements.
372. On reflection, Transpower believes it is correct to refer to the net increase in system operator charges of c.a. \$3.4m, given the reallocation of costs of security services associated with the grid assets.

⁷⁵ The SOSPA fees were agreed through a prolonged negotiation over three years with various industry representative bodies culminating with the Electricity Commission. The fee is set as a levelised, fixed nominal charge to recover the forecast incremental costs of providing the system operator service as specified in the SOSPA over a five year contract term.

Transitional Rebates

373. Transitional rebates were a change introduced to smooth the negative impact on some customers' prices in transitioning to a new pricing methodology introduced in 1999. As the transitional rebates reduce there is a net increase in transmission charges. There were no transitional rebates in 2004/05, as the transitional period ended.

Interconnection Charge Over-recovery

374. The anytime maximum demand (AMD) and anytime maximum injection (AMI) measures used to determine the interconnection and HVDC rates for setting the interconnection and HVDC charges are, respectively, based upon the twelve highest peaks and single highest peak injection, in a rolling twelve month capacity measurement period. Interconnection and HVDC rates and charges are based on forecasts for the year ahead of both AMD and AMI. In the course of the pricing year, the total charges recovered will tend to be higher (if demand is significantly increasing) and tend to be lower (if demand is significantly falling) than the targeted recovery based on the original revenue requirement forecasts.

375. During 2004/05, severe winter storms, particularly around the middle of August, resulted in 672 new demand peaks, affecting 90 of the (then) 169 points of connection. As a result, Transpower's revenue recovery was \$11.7m more than that set in the revenue requirement. This over-recovery was the result of applying the regulated pricing methodology.

376. It should be noted that, all other things being equal, any over-recovery, such as that referred to above, is returned to customers through subsequent EV rebates (i.e. negative charges).

5.5.3 Reconciliation with the 2004/05 Breach

377. The analysis and commentary presented above sets out an explanation for a revenue increase of some \$82m (which includes \$47m relating the EV rebate) over the period 2003/04 to 2004/05. This is summarised in Table 5.2 below:

Description	\$m	Source
EV rebate removed	47	Revenue requirement
Investigations	14	Revenue requirement
Insurance Increase	3	Revenue requirement
Industry levies	2	Revenue requirement
SOSPA	3	Additional revenues
Interconnection over recovery	12	Additional revenues
Removal of transitional rebate	1	Additional revenues
Sum of explained increases in revenue	82	
Transpower reported breach	68	

Table 5.2: Increases in Notional Revenue 2004/05

378. Transpower's reported 2004/05 threshold breach was \$68m. The increases in revenue requirement in 2004/05 coupled with the additional increases in charges during the year are the reasons why notional revenue exceeded the price path threshold giving rise to the reported breach.

5.6 The 2005/06 Breach Explained

379. This sub-section provides the reasons for the increase in the notional revenue reported for the 2004/05 to 2005/06 period and thus for the reported breach for this period.

5.6.1 The 2005/06 Revenue Requirement Building Blocks

380. The revenue requirement for transmission asset owner services in 2005/06 (i.e. as applied in prices from 1 April 2005) was \$535m⁷⁶, compared with the revenue requirement in the previous year of \$483m. This overall increase the revenue requirement of \$52m (before EV adjustment and prior year commercial rebate) is explained with reference to the revenue building blocks set out in Figure 5.3 below:

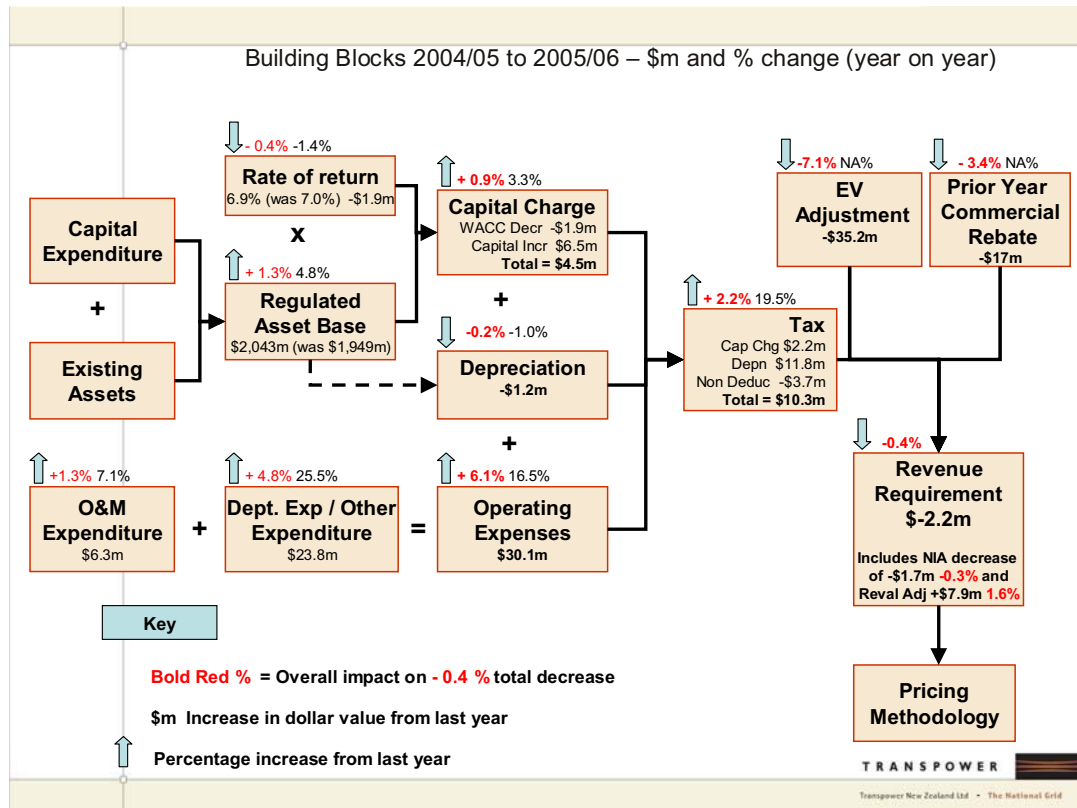


Figure 5.3: Changes in Revenue Requirement Building Blocks 2004/05 to 2005/06.

381. The breakdown in Figure 5.3, in the same way as presented for the prior year, shows that the net increase in revenue required (in relation to transmission owner charges) for the period results from a decrease in certain building block costs (e.g. in this case lower targeted rate of return and lower depreciation charges) and an increase in other revenue

⁷⁶ Excludes New Investment Agreements, EV charges and the commercial rebate.

components, the main contributor being an increase in operating expenditure.

382. The more material increases in costs affecting the revenue requirement for the 2005/6 pricing year are summarised below:

Capability development (business support expenditure)	+\$19m
Increased capital charge	+\$5m
Increased operations and maintenance expenditure	+\$6m
Higher tax payments	+\$10m
Investigations and feasibility work	+\$4m.

5.6.2 Revenue Requirement Increases in Detail

383. We set out below a more detailed explanation to support the movements in these revenue drivers.

Business Capability Development

384. Transpower is planning a major phase of growth and investment to ensure that its transmission network and services can meet the increasing energy demands of the country. Transpower needs to move from an organisation that has historically operated at a steady state to one that is capable of both delivering and supporting the business through a major phase of business change and growth. This requires the development of new capabilities and provision of resources to support long-term major grid upgrades but also, more urgently the ongoing programme of "tactical" investments aimed at maximising the utilisation of the existing grid.

385. Transpower's business plan sets out how the business needs to adapt and develop to meet these new challenges and the impact that this will have on operating expenditure going forward. The significant increase in 2005/06 operating expenditure, as set out in Figure 5.2, was mainly driven by investment to develop the core capabilities of the business and is

reflected in the increase number of full time equivalents (FTEs) recruited in the following business functions:

- Information technology and business infrastructure development;
- Grid development – engineering and planning;
- Regulatory, compliance and risk management;
- Human resources and staff development;
- Business services, planning and control.

386. Some \$19m of the total operating expenditure increase in the revenue requirement is directly related to the increased number of staff Transpower now employs. (The longer term trend in staff number has seen FTEs increase from 365 in July 2002 to 477 in early 2006.)

387. Transpower has recruited staff to plan, prepare and implement the upgrades to the national grid, both shorter-term tactical investments and significant longer term projects.

388. Transpower has also had to invest significantly in resources to meet the requirements of the evolving regulatory and commercial environment as reflected in the day to day dealings with both the Commission and the EC. These costs either did not exist (in the case of the EC⁷⁷) or, in respect of the Commission, have grown over time as the threshold regime has evolved. Additionally, the budgeted amount for Industry levies (which include the EC levy) contributed some \$4.8m to the forecast increase in operating expenditure in 2005/06.

389. In summary Transpower has, it believes, both prudently and necessarily expanded the organisation in order to build and maintain momentum on the proposed grid upgrades.

⁷⁷ There has been a significant increase in work as the EC has developed its role and mechanisms, Transpower has fed into this process. In addition the GUP, GIT etc have not existed in the past. They are new or substantially altered work-streams that Transpower has not previously had to deal with.

Capital Charge Increase

390. The 2005/06 revenue requirement included an increase in the capital charge of net \$5m. This was largely as a result of an increase in the average operating capital⁷⁸ of \$6.5m, partially offset by a decrease in WACC. The changes had a corresponding tax effect corresponding to an increase of \$2.5m.

Increased Operations and Maintenance Costs

391. Operations and maintenance costs were forecast to increase by around \$6m. This included increased costs due to the coincident timing of periodic substation inspections (\$2m) and various other transmission line and substation maintenance increases.

Taxation Charge Increase

392. Taxation increased due to a higher forecast accounting profit and an increased taxable profit (due to a reduction in the level of estimated deductible costs).

Investigations and Feasibility Work

393. Investigations expenditure increased by \$4m. In this period, Transpower commissioned a review of its IT capabilities, infrastructure and processes which resulted in the development of a long-term Information Systems Strategic Plan (ISSP). Whilst this remains in the early stages of implementation, work was progressed in 2005 on a number of investigations of old or potentially deficient information systems (\$2m increase). During the year investigations relating to the planned grid upgrade (as described earlier) also increased by a further \$2m.

⁷⁸ Driven by an increase in the regulated ODV from 2003 to 2004.

5.6.3 Actual Revenue Recovered in 2005/06

394. In relation to the actual revenue⁷⁹ for the 2005/06 year (as reported in the threshold compliance statement), the main additional changes, in addition to the increase in the revenue requirement for transmission asset owner services, related to an estimated interconnection over-recovery of \$9m.
395. As stated earlier, one of the problems in attempting to reconcile year on year cost increases back to a price threshold set several years in the past is that justifiable costs increases that have occurred in the preceding years also have to be considered in the explanations of the breach.
396. Some of the reported cost movements in relation to the 2004/05 breach also apply to the 2005/06 period. Where they have not already been incorporated above they are set out below.

Description	Amount (\$m)
Investigations	14
Insurance	3
SOSPA	3
Transitional rebates	1
Increase in actual revenue	\$21m

Table 5.3: Other increases in notional revenue 2005/06

5.6.4 Reconciliation with the 2005/06 Breach

397. The analysis and commentary presented above sets out an explanation for the increases in revenue requirement for transmission asset owner services that contributes to the increase in notional revenue. This movements in the revenue requirement are summarised in the table below:

⁷⁹ Note that the 2005/06 revenue year is still to finish.

Description	\$m	Driver for increase
Capital charge	5	Revenue requirement
Inc. business support expenditure	19	Revenue requirement
Increased maintenance charges	6	Revenue requirement
Tax increase	10	Revenue requirement
Investigations (increase form 2004/05 period)	4	Revenue requirement
Increase in revenue relating to 2005/06	44	

Table 5.4: Key Increases/Net Movement in Revenue Requirement 2005/06

398. Transpower's reported 2005/06 threshold breach was \$43m. The increase in revenue requirement for transmission asset owner services in 2005/06 (in addition to the increases relating to the 2004/05 year) provide a reconciliation against the 2005/06 breach as summarised below:

Net increase in revenue requirement	\$44m
Other increases in revenue (relating to 2004/05)	\$21m
Interconnection over-recovery	\$9m
Total revenue increase explained ⁸⁰	\$74m
Transpower calculated breach	\$43m

Table 5.5: Key increases to explain increase in notional revenue 2005/06

⁸⁰ Excludes EV rebate of \$35m which relates to the reduction in the customer EV balance, in addition to the reported \$17m HVDC commercial rebate adjustment which has been carried to the shareholder's account..

6 TRANSPOWER'S FUTURE INVESTMENT AND PRICES⁸¹

6.1 Introduction

399. This section explains the context for, and details behind, Transpower's announcement of a 19% price increase to take effect from 1 April 2006, and its indication that price increases will average 13% over the five year period i.e. from 2006/07 through to 2010/11.

400. The 19% increase reflects a broad-based increase in the revenue building blocks. The price rise includes the effect of forecast increases in operating capital that includes property costs (in preparation for the planned North Island 400kV line) and other grid investments for which EC approval is required. These effects contribute ca. 2% of the price increase. In the event that projects do not proceed such costs would be reversed through the operation of the EV customer account. The 13% average price increase is an indicative forecast based on Transpower's planned investments, as set out in the 2005 Grid Upgrade Plan. In practice, actual price increases will reflect the extent to which these plans, where it is appropriate, are approved by the EC and implemented.

401. The section begins by describing how the lack of investment in recent years has compressed the timetable for future investment needed to maintain grid reliability. It then outlines the investments Transpower considers critical and discusses their status in relation to EC approval.

⁸¹ It is important to note that this section focuses entirely on the revenue and associated price increases for transmission (asset owner) services. While the threshold regime encompasses system operator services, the fees (notional revenue) under the System Operator Service Provider Agreement (SOSPA) are subject to a levelised contract fee over the five year term of the agreement. To the extent that fee increases occur, these will be as a result of prior agreement with the counterparty to the agreement (i.e. the EC), in accordance with the terms of the SOSPA.

The announced price increases are then explained in detail by reference to the building blocks analysis that underlies Transpower's calculation of its revenue requirements.

6.2 Drivers for Future New Investment

402. To understand the need for major investment over the next five years, it is first necessary to review the pattern of transmission investments over the last 70 years.
403. Transmission investments are generally "lumpy" in nature. Reasonably large investments are made with the capacity then used up over a long period. In New Zealand, most "transmission build" occurred in the 1950s, 1960s and 1970s. This is illustrated in Figure 6.1 below. This period of major transmission build created the capacity to run the national grid through to the early 21st century.
404. Whilst little transmission has been built since the end of the 1980s, the demand (or load) on the network has in the mean time, continued to grow. In particular, Transpower expects the demand in the Auckland and North Isthmus region to exceed peak capacity of the existing transmission system by 2010. Other acute pressures on the network have emerged in the upper South Island and into Christchurch. In addition, elements of the HVDC link across the Cook Strait have almost reached the end of their operating life.

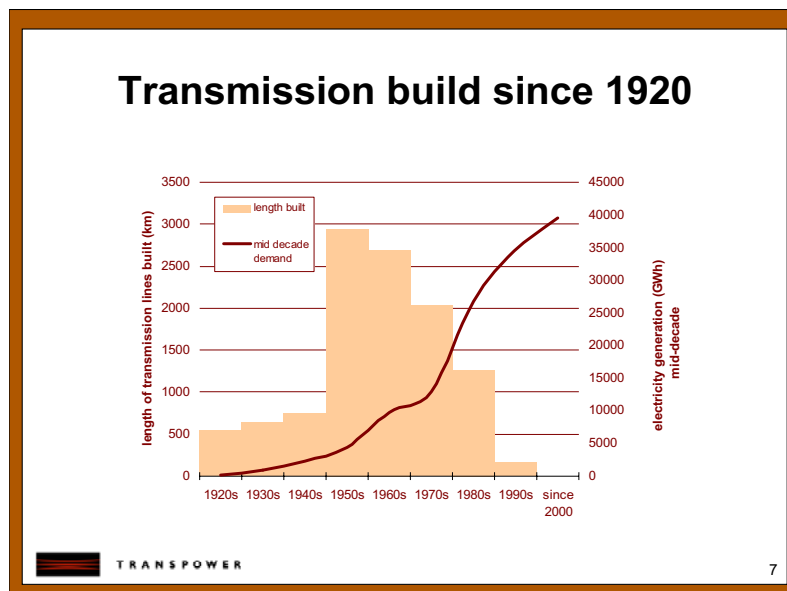


Figure 6.1: Transmission Build since the 1920s

405. In the late 1990s, Transpower considered the need to enhance capacity to meet the load growth. At that time, there was a perceived shift away from transmission to local (distributed) generation. As a result, Transpower undertook only limited investment in new capacity with most of its spending targeted to maintaining the grid at existing capacity levels.
406. Some incremental new investments were also deferred as a result of disputes over which industry participants should pay for the enhancements. Such disputes were a feature of the entirely contractually based environment within which Transpower operated at the time.
407. Table 6.1 below demonstrates the decline in Transpower's total fixed asset base over the last ten years, with capital invested falling below depreciation. This trend of asset depreciation exceeding capital investment is clearly not sustainable over the long term, if load on the grid continues to grow.

Year	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	Total
Capital Spend	82.0	98.0	48.0	50.6	62.2	58.4	80.3	102.4	93.2	104.0	779.1
Less Depreciation	122.0	141.7	160.7	117.0	121.0	114.4	93.1	84.0	117.0	110.2	1,181.1
Net	(40.0)	(43.7)	(112.7)	(66.4)	(58.8)	(56.0)	(12.8)	18.4	(23.8)	(6.2)	(402)

Table 6.1: Decline in Fixed Asset Base (\$m)

408. As would be expected, during this period, the average price of Transpower's services declined steadily (as measured by c/KWh)⁸² and the savings from investment deferral were to the benefit of grid customers.

409. Whilst there may be benefits from deferring investment until the best information on need and alternatives are available, it is also necessary to take account of the uncertainties in load growth and the long lead times for consenting and line construction, in order to leave a prudent margin between demand growth and available transmission capacity.

410. The anticipated take-up of distributed generation, in the late 1990s, has not occurred as expected and energy demand has continued to grow, with the margin between demand and capacity eroded in the meantime.

411. The historical combination of investment deferral and the inability to gain agreement to some planned investments has pushed investment timings past the optimum point. This has resulted in:

- The pattern of future expenditure being compressed;
- Significant peaks in requirements for design and construction resources and equipment suppliers;
- Limited opportunity for securing outages to undertake upgrade work, while maintaining supply; and
- Limited margins between demand and capacity which set tight design, consenting and construction timelines.

⁸² Refer to Figure 4.1 in Section 4 of this submission.

412. Figure 6.2 contrasts the low level of the investment over the last decade with the forecast step change in investment over the next ten years.

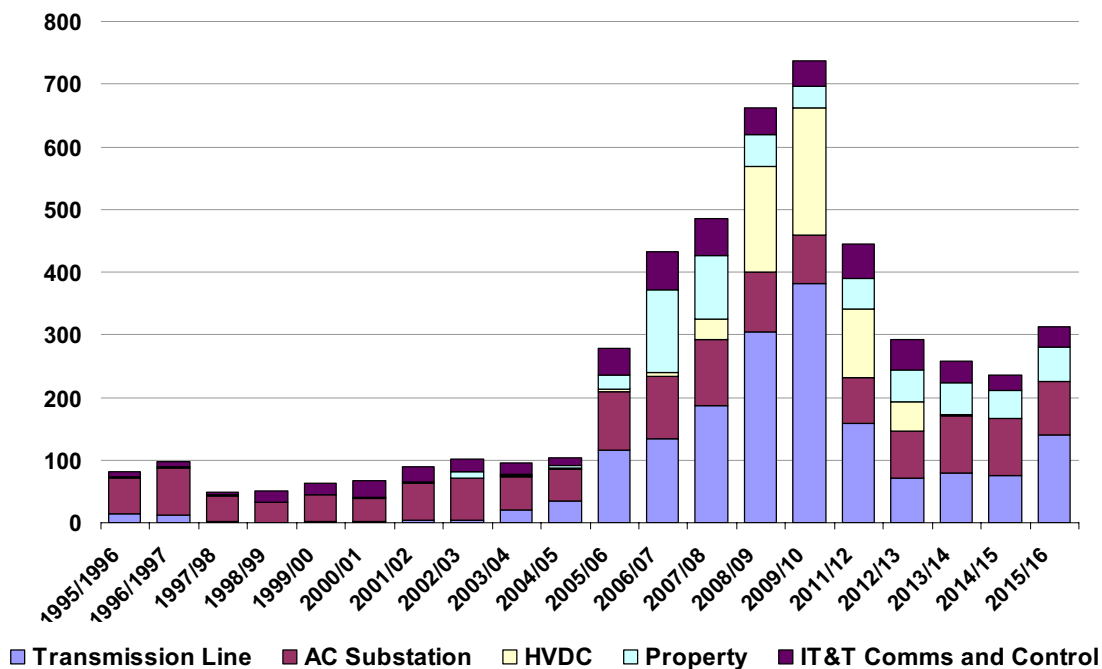


Figure 6.2: Transpower Capital Spend Trend⁸³

413. Based on Transpower's current projections, the asset base is anticipated to increase by \$2.4b over the five year period, 2005/06 to 2010/11 as a major programme of grid enhancement is undertaken. Indeed, the process is already well underway with series of shorter-term capacity enhancements completed, underway or soon to be implemented. EC approvals for around \$170m of capital expenditure has been granted (refer below). Other very large scale investments, such as the planned 400kV line from Whakamaru to Otahuhu, and a significant upgrade to the HVDC link are with the EC for consideration.

414. The forecast investment required to augment the grid is driven principally by forecast demand and increasing load on the network, plus the need to

⁸³ Graph based on actual expenditure to 2005/06 and forecasts going forward as per "Comprehensive Plan for Asset Management & Operation of the Grid" (Vol.1 2005 Grid Upgrade Plan).

replace ageing equipment to maintain existing standards of reliability. The investment will also reduce the level of future transmission constraints, reduce energy losses in transmission and facilitate the connection of renewable (primarily wind) generation.

415. A summary of Transpower's investment plans is contained in the ten year expenditure forecast of the "Comprehensive Plan for Asset Management & Operation of the Grid" (Vol.1 2005 Grid Upgrade Plan).

416. Major elements of the projected increases in capital invested are the 400kV transmission line in the North Island (from Whakamaru and Otahuhu), and an upgrade of the HVDC inter island link which together comprise some 60% of the investment programme. As noted above, both these projects were submitted to the EC for approval as part of the 2005 Grid Upgrade Plan.

417. All of the major investments included in Transpower's planned capital programme are summarised in Table 6.2, below.

418. It should be noted that the estimated costs for the first four projects/programmes in Table 6.2 are the amounts requested for approval from the EC. In the case of the HVDC inter island link upgrade and the North Island 400kV upgrade the costs are the upper limit of the estimated nominal costs as per the GUP investment proposal submitted to the EC. Also, the Auckland north isthmus and South Island development are indicative figures only as full investment proposals have not yet been developed.

Project	Est. Capital	Summary Description
Tactical Transmission Upgrades	\$158m	This is a programme of 31 projects (originally presented in Transpower's document "The Future of the National Grid"). A significant proportion of the investment relates to maintaining security into the upper South Island and into Christchurch.
Grid Development Proposals	\$130m	This comprises a programme of 11 projects relating to: reactive support to the upper North Island, thermal upgrade of Whakamaru 1, 2 circuits, enhancement of the transmission network in the Bay of Plenty, a new switching station at Huntly East and a number of other small investments.
North Island 400kV Transmission Line	\$622m ⁸⁴	Transpower considers that to meet the Grid Reliability Standards this investment needs to be in place by 2010. The full analysis of the need for investment, options, and cost benefit analysis is documented in the 2005 GUP.
HVDC Inter Island Link Upgrade	\$795m ⁸⁵	Transpower considers that the existing pole 1 converter stations at Haywards and Benmore should be replaced and has proposed installing new thyristor converter poles, two additional 500 MW submarine cables across the Cook Strait and replacement of the HVDC control system. The full analysis of the need for the investment, options, and cost benefit analysis is documented in the 2005 GUP.
Auckland North Isthmus programme	\$329m	Transpower considers there will be a shortfall in supply to the North Shore and Northland by 2012. Transpower proposes to install new underground cable from Penrose through to Albany via the Harbour Bridge and supply new 220 kV grid exit points for Vector Networks at Hobson St and Wairau Rd.
South Island Development	\$270m	Transpower's analysis indicates that there will be a shortfall in supply to the upper South Island from 2012 onwards. If no alternatives are forthcoming, Transpower will propose suitable transmission investment.
Total	\$2,369m	

Table 6.2: Summary of Proposed Significant Grid Upgrades

⁸⁴ Estimated nominal costs as per the GUP Investment Proposal to the Electricity Commission.

⁸⁵ As per the previous footnote.

419. The estimated costs for first four projects/programmes in Table 6.2, above are the amounts requested for approval from the EC. In the case of the HVDC Inter Island Link Upgrade and the North Island 400kV Upgrade the costs are the upper limit of the estimated nominal costs as per the GUP Investment proposal submitted to the EC. The Auckland North Isthmus and South Island Development are estimated indicative figures only as full investment proposals have not yet been confirmed and no GIT (Grid Investment Test) analysis has been performed.

6.3 Only EC Approved Projects will be Included in Future Pricing

420. Transpower does not intend to include investments in the regulatory asset base and recover the costs from customers, where approval of that investment falls within the ambit of the EC, and EC approval is declined.

421. In the 2005 GUP submitted to the EC, Transpower the table providing ten-year projections of estimated operating and capital expenditures to be recovered from transmission customers, was prepared at the request of the EC. Much of the data beyond the initial years relies on uncertain assumptions, e.g. regarding future investment approvals by the EC or regulatory determinations by the Commission in respect of asset valuation, price thresholds etc. Given regulatory and other forecasting uncertainties, the EC was advised not to rely on the veracity of the information for the period beyond 31 July 2007.

422. In relation to the 2006/07 pricing year (as discussed in Section 4), the revenue requirement includes forecasts of operating capital which includes capital for investments for which EC approval will be or has been sought but not yet given. If proposals put to the EC are rejected, then the assets will not enter the regulatory asset base. In the case where prices are set based on assumed approvals that do not occur, Transpower would over-recover revenue associated with those unapproved projects. In this case,

any over-recovery will subsequently be returned to consumers (plus interest) through the operation of the EV mechanism.

423. The fact that there are investments in the forecast asset base that are yet to be approved is to some extent a matter of timing. Part F has only been in existence since 2004 and a number of investment proposed by Transpower are still in the process of being reviewed by the EC. Whilst the EC has been gearing itself up to be able to review investment proposals Transpower has as a matter of prudence continued developing and implementing its investment plans. In many cases, notably in the upper South Island, but also in the case of other tactical investments, Transpower took the view that as a reasonable and prudent grid operator, it could not afford to wait for the development of the regulatory regime to be concluded before undertaking urgent reliability driven investments.

424. To some extent the Commission's concern may have been caused, in particular, by the process adopted by Transpower in relation to the North Island 400kV project. As discussed further in Section 6.4, the circumstances of the North Island 400kV project are somewhat unique, particularly in respect of the timing constraints for this project (given the investment outlook described above) and the transitional nature of the regulatory arrangements. As a result, Transpower's approach to the North Island 400kV project is a poor guide as to its future behaviour.

425. Transpower anticipates that, looking forward, all investments that fall within the EC's ambit for approval will be submitted for approval. Although, as discussed further below, the precise extent of the EC's investment approval role is unclear.

426. The possible assumption that Transpower will undertake other grid investment and seek to recover the associated costs from customers without regard to the approval processes of the EC, is not consistent with Transpower's approach to date, or its intended future behaviour. Any

assessment from the Commission that is reliant on this assumption is unreasonable.

427. Transpower's approach to grid investment approvals can be illustrated by reviewing the status of EC approval for grid expenditure. To date, Transpower has submitted the following investment proposals to the EC for approval:

- TTUs;
- Grid Development Proposals;
- Interim Grid Expenditures
- North Island 400kV upgrade; and
- HVDC inter island link replacement.

428. Table 6.3 summarises the investment proposals submitted to the EC for approval and their status.

EC Submission Name	EC Category	EC Requested Amount by Transpower (\$)	EC Indicative Approval (\$)	EC Approved Amount (\$)	Total EC Approval (Indicative plus Approved) (\$)
TACTICAL TRANSMISSION UPGRADES					
Category A		113.4	---	91.5	91.5
Category B		20.2	---	---	---
Category C		---	---	---	---
Category D		24.6	---	---	---
Sub-total		158.2m	---	91.5	91.5
GRID DEVELOPMENT PROPOSALS					
Category A (Indicative)		66.4	66.4	---	66.4
Category B		---	---	---	---
Category C		49.2	---	---	---
Category D		14.3	---	---	---
Sub-total		129.9	66.4	---	66.4
OTHER INTERIM GRID EXPENDITURE					
Cross Harbour Cable - Property Rights & Ducting	A	7.8	---	7.8	7.8
Sub-total		7.8	---	7.8	7.8
HVDC					
Interim Grid Expenditure	A	6.3	---	6.3	6.3
Grid Upgrade Plan	Submitted	788.7	---	---	---
Sub-total (HVDC)		795.0	---	6.3	6.3
NI 400kV					
Interim Grid Expenditure	Submitted	35.0	---	---	---
Grid Upgrade Plan	Submitted	587.0	---	---	---
Sub-total (NI 400Kv)		622.0	---	---	---
MAJOR PROJECTS TOTAL		1,417	---	6.3	6.3
TOTAL		1,1712.9	66.4	105.7	172.0

* The EC categories are as follows (see the transitional provisions, Rule F-III-16):

- A Investments approved by the EC. For a number of investments, Transpower sought EC approval after committing expenditure. The EC's view (which Transpower disputes) is that it can only approve costs not yet committed. This accounts for the difference between EC Requested Amount by Transpower and EC Approved amount in the table above.
- B Customer specific investments (the EC seeks customer agreement prior to EC approval).
- C EC considers that it does not have sufficient information to make a decision.
- D Investments not approved. The EC views these as economic (not reliability) investments which fall outside the scope of the transitional provisions.

Table 6.3: Summary of Investment Proposals Submitted to the Electricity Commission

429. In April 2005, Transpower sought approval for a number of Tactical Transmission Upgrades (TTUs), with a total value of \$158.2m. To date the EC has given indicative approval for \$91.5m (Category A) and not approved some \$24.6m (Category D). The Category D investments were not approved on the basis that these projects were considered by the EC not to be reliability investments and therefore fell outside the scope of transitional provisions. The EC confirmed that these projects should be resubmitted as economic investments and included as part of the Grid Upgrade Plan.
430. One TTU project, with a value of \$20.2m, is still being considered for approval by the EC. In relation to the balance of \$21.9 the EC has indicated that this cannot be considered for approval on the basis that Transpower had already commenced work and incurred this expenditure in advance of the project being submitted for approval. The EC decision in these cases rests on its view that it is not in accordance with the rules under Part F of the Electricity Governance Rules, to approve expenditure retrospectively. Transpower disagrees with this interpretation of the rules.
431. Either way, it is important to note that where the EC did not grant approval for this retrospective expenditure, it did indicate that it considered the relevant investments were prudent and necessary to meet the Grid Reliability Standards. That is, the EC would have approved this expenditure had retrospectivity not been an issue. It is also noted that the EC has indicated that it intended to pursue a rule change to allow retrospective approvals and that, in all cases where projects have been approved, the EC has challenged but ultimately accepted the project costs submitted by Transpower.
432. The Grid Development Proposal was submitted to the EC in the last quarter of 2005. To date, the EC has given indicative approval for \$66m and has either requested further information or considers the projects to

be economic investments. Transpower has not committed expenditure to any of these projects ahead of EC approval.

433. Transpower has also sought approval for Interim Grid Expenditure (IGE) in respect of three key investments: North Island 400kV, HVDC upgrade and the Auckland cross harbour cable, to allow Transpower to progress the preliminary stages of these projects while approval for the full investment is considered by or prepared for the EC. To date, the EC has approved the IGE for the HVDC upgrade and the cross harbour cable.

434. Transpower has not yet sought approval for any further South Island development investments (beyond those included in the TTUs) or for the Auckland north isthmus programme (total of \$599m) as the investment need and the options for these regions are still being considered.⁸⁶

435. In the case of the South Island, Transpower is currently engaged in consultation with interested parties on defining the investment needs for the region. An RFI ("request for information") was published in late 2005 seeking comments on Transpower's assessment of the need for investment and to begin the process of understanding the scope for alternative investments that might remove or significantly defer the need for further transmission investment. This process is feasible for the South Island (in contrast to that adopted for the North Island grid upgrade) because of the lesser timing constraints for implementing transmission investment (if required) and the more stable regulatory framework that is developing under Part F. This difference in approach is important evidence of adaptation in Transpower's behaviour in response to the prevailing circumstances as it seeks to balance the competing requirements and expectations placed upon it. As such, it further counters the Commission's approach which has seemingly sought to extrapolate,

⁸⁶ These investments are included in the indicative 10 year comprehensive plan submitted as part of the 2005 GUP.

without question, from the unique circumstances of the North Island 400kV project (refer Section 6.4, below) to infer Transpower's future behaviour.

6.3.1 Scope of EC Investment Approval Role under Part F

436. Part F is unclear as to the investments which require EC approval, and even what the consequences are of receiving approval in terms of Transpower's ability to recover those costs through future transmission charges or the effect on the decisions of the Commerce Commission in respect of Part 4A of the Commerce Act.

437. As discussed in Section 4, Transpower has sought to develop a common understanding with the EC in relation to the capital investments that should be considered to be reliability or economic investments and which therefore can be submitted as investment proposals for approval as part of a grid upgrade plan. The present agreement is set out in a letter from the EC.⁸⁷

438. The letter indicates that Transpower should submit to the EC investments which enhance the service potential of the grid (in terms of capacity, security or quality⁸⁸). Transpower terms this enhancement or development capital expenditure (as opposed to replacement or refurbishment capital expenditure). What is explicit in this letter is that there are several categories of capital investment (as well as all categories of operating expenditure) which the EC does not approve as part of a grid upgrade plan.

⁸⁷ "Process and Content of Grid Upgrade Plan (GUP)", Letter from Roy Hemmingway to Dr Ralph Craven, 14 September 2005.

⁸⁸ For investment for which approval is sought under the transitional provisions, the "test" for approval is couched in possibly similar but also somewhat ambiguous terms as expenditures considered to be, inter alia, additional to "normal ongoing grid expenditure".

6.4 Transitional and Timing Issues with the North Island 400kV

439. In understanding Transpower's recent behaviour in respect of the timing of EC investment approvals relative to expenditures, it is important to understand the particular circumstances of the North Island 400kV project. It is misleading to extrapolate or infer Transpower's future behaviour from the implementation of the preliminary stages of this project because the circumstances and the transitional environment in which this project has evolved are not expected to recur.

440. By way of background, at the start of 2003, Transpower's power system analysis identified that significant parts of the network in both islands would become constrained from around 2010. As a response to this, Transpower initiated a System Vision study to further investigate alternative solutions to relieve these constraints. The constraint into Auckland was recognised as a priority as Transpower's analysis indicated peak demand would exceed existing reliable transfer capability by winter 2010.

441. The long lead time for such a major investment project, including the lengthy process required to secure environmental consents and property rights, as well as the major construction involved, meant that Transpower believed it was prudent to commence the project in a timely manner.

442. The timeline for the North Island 400kV project, showing the critical path timings for various stages of the project, is shown in Figure 6.3.⁸⁹ In Transpower's view, this investment needs to be in place by 2010 in order to prudently manage the risk of non-supply to the Auckland region. As can

⁸⁹ The critical path for the North Island 400 kV project is the environmental consenting process. It is estimated that this process could take up to four years to complete. This leaves a very tight construction window for transmission line, and other substation and underground cable works, to meet a pre-winter 2010 date.

be seen from the timeline there is little scope for delay. Transpower has been working on this project since the beginning of 2004.

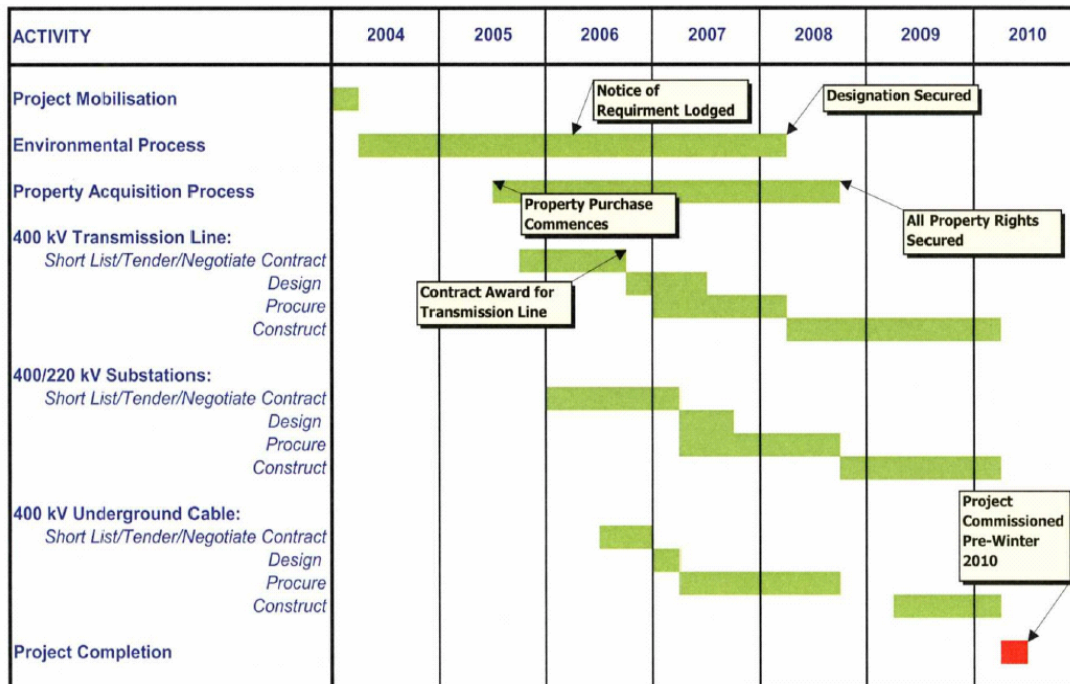


Figure 6.3 – Timeline for North Island 400kV Project

443. Transpower was already well underway with the project in terms of option identification and planning prior to the inception of Part F of the EGRs in 2004. The Grid Investment Test, a key part of the EC's transmission investment approval process, was not gazetted until January 2005.
444. Transpower has continued with the project (without final EC approval) whilst the EC has developed its framework for investment approvals under Part F.
445. Transpower continued with this work with the endorsement of the Minister of Energy:

“The government in the meantime expects Transpower, as a matter of prudence, to continue with its planning processes, including route selection, negotiations with landowners and the Resource Management Act processes.

The government is committed to ensuring on-going security of electricity supply. In many parts of New Zealand this may include upgrades to the grid, which is coming under increasing pressure.⁹⁰

446. In December 2005, the EC also indicated its view that Transpower is prudent in continuing with the preparations of the line construction, pending any decision on whether to approve the line:

“Transmission investment decisions are often characterised by complex technical analysis, comprehensive planning studies, and long lead times. Therefore Transpower has initiated planning and consultation work on the proposed Auckland 400kV work ahead of the Commission fully considering Transpower’s proposal in a GUP. Both the Commission and the Minister of Energy have supported this approach.”⁹¹

447. Transpower submitted the North Island 400kV project for approval to the EC in May 2005. An interim decision from the EC on the 400kV proposal is expected in March 2006 and a final decision by 30 June 2006. Given the overall climate in which the investment proposal has been developed and considered, Transpower is continuing with preparatory work as far as is practical until EC approval is granted or a contrary decision is made.

448. For future investments, the relevant processes of Part F will be in place, which should allow Transpower to achieve prudent investment timings in a sequential manner (rather than partly in parallel) through the regulatory approval and other preparatory processes.

⁹⁰ Media Statement, 13 April 2005.

⁹¹ “Alternatives to Transpower’s Proposed Whakamaru-Otahuhu 400kV Transmission line: Alternative Analysis Stage II”, Electricity Commission, December 2005, Pg 7.

6.5 Building Blocks Analysis

449. Having set the context and background to the programme of planned investment (both tactical short-term investment and longer-term grid upgrades), this section provides further details on the factors behind the increase of 19% between 2005/06 and 2006/07 in Transpower's revenue requirement and hence in prices (on average). Similarly, the factors behind the indicative average increase of 13% for the five year period from 2005/06 to 2010/11 are also set out.

450. Transpower's revenue requirement, which determines price increases, is derived from a conventional building blocks model (as has been described in detail earlier in Sections 3 and 4).

6.5.1 2006/07 Price Increase

451. The factors driving the increased revenue requirement of 19% are illustrated in the figure below.

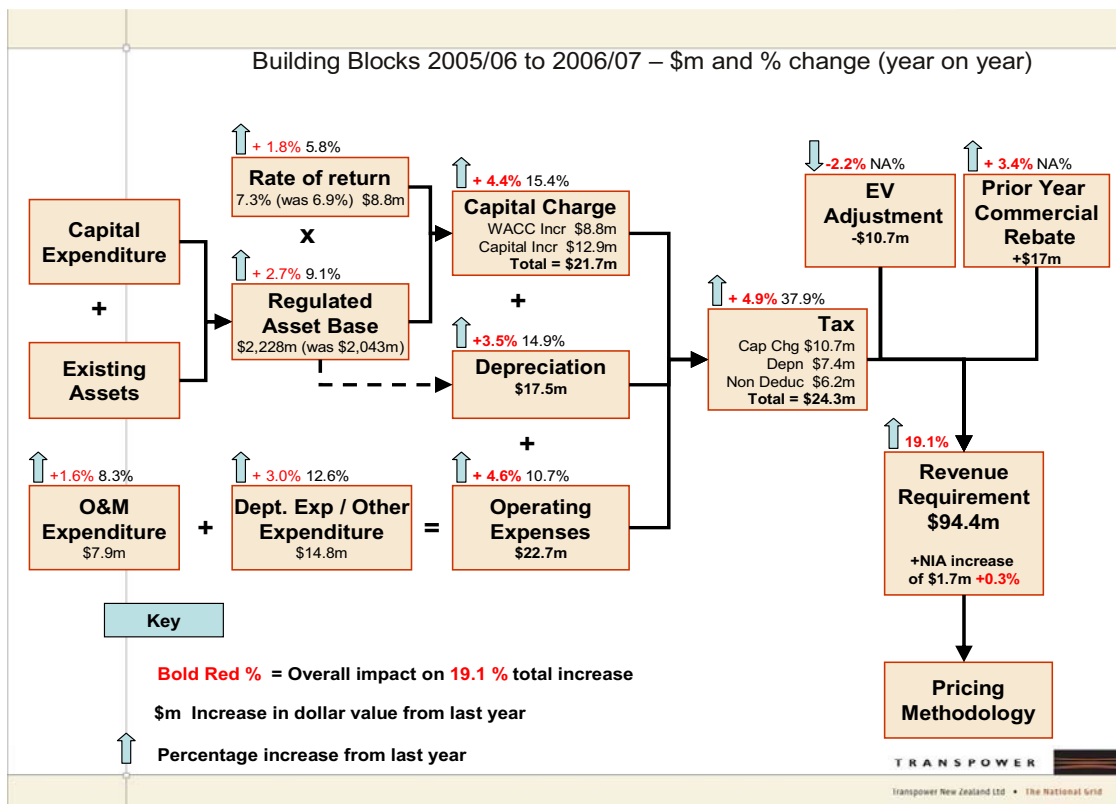


Figure 6.4: Increase in Revenue Requirement between 2005/06 and 2006/07

452. As illustrated in Figure 6.4, the increase in the revenue requirement of 19.1% or \$94.4m arises because of increased costs across a number of the revenue building blocks. It is important to note that this is not being driven by significant pre-funding of yet to be approved Tax capital projects as the Commission has implied.

453. The analysis of each of the building blocks in relation to the proposed price increase is as follows:

- A higher WACC results in an increase in the revenue requirement of \$8.8m. Transpower increased its asset beta from 0.25 to 0.30 in 2005 to reflect the impact of the regulatory environment on Transpower's systematic risk. This adjustment brings Transpower's asset beta up to the bottom end of the range which the Commission views as appropriate for electricity lines businesses;

- Average operating capital is forecast to increase by \$185.6m for the 2006/07 revenue requirement resulting in an increased capital charge of \$12.9m. The underlying movements are set out in Table 6.4.

Asset Type	\$m	Summary Description
Transmission lines	\$85.1m	Due to higher forecast capital expenditure (\$91m in 2005/06 and \$108m in 2006/07) ⁹² .
Property related	\$92.8m ⁹³	A change in Transpower's land and easement policy results in this amount being included in forecast operating capital.
Substation	\$39.0m	Substation assets included in the forecast operating capital have increased by \$40.3m
HVDC	(\$24.0m)	This decrease is the result of the year on year increase in accumulated depreciation with only minor capital expenditure planned within this period.
IT, Administration and Communication	\$26.6m	This mainly reflects an increase in planned information technology capital expenditure. Major projects included in the business plan for the period are: <ul style="list-style-type: none"> – the SCADA (Supervisory Control and Data Acquisition) replacement, – the separation of domains and network perimeter work, – development of IT infrastructure to support the consolidation of the existing networks and systems; – development of the maintenance management system, and – enhancements to enterprise resource and planning systems, for example the

⁹² Capital expenditure excludes major projects as this expenditure is not expected to be commissioned for a number of years. All other capital expenditure is assumed to be commissioned according to a "standard" (i.e. typical, average) commissioning profile for more minor projects.

⁹³ Specifically this includes: \$38m of 400kV North Island property and \$21.5m for the Auckland cross-harbour cable route.

Asset Type	\$m	Summary Description
		introduction of a human resource information and employee "self serve" system.
Working capital	(\$12.1m)	Other forecast non-asset capital items are planned to decrease by \$12m.
ODV revaluation	(\$21.8m)	The 2005 ODV revaluation and optimisation resulted in a net \$21.8m decrease in operating capital.
Total	\$185.6m	

Table 6.3: Summary of Operating Capital Movements 2006/07

- The combined impact of the increase in operating capital and WACC is \$21.7m (or 4.4% of the 19.1% overall price increase);
- Depreciation charges have increased by \$17.5m, reflecting the underlying increase in the asset base explained above, and a number of other valuation related adjustments;
- The forecast tax charge has increased by \$24.3m due to an increase in the capital charge, a net increase in non-deductible expenditure, a reduction in planned interest during construction and an increase in the timing difference between financial depreciation and tax depreciation;
- Operations and maintenance expenditure is forecast to increase by \$7.9m. Repairs of transmission lines accounts for the majority of the increase;
- Departmental expenditure has been forecast to increase by \$14.8m. Key elements in the increases are set out below:
 - An increase in the EC levy of \$7m. This is in part explained by the impact of a full year EC levy charge compared to the prior year. In addition, when the budgets were set, there was some uncertainty over the transmission levy, in particular the costs of the EC evaluating the 400kV proposal and alternatives. The budgeted figure is likely to prove an over-estimate. Any over

recovery resulting from such forecasting uncertainties is refunded back to customers via the EV customer account balance;

- An increase of \$8.5m relating to personnel and consultants costs including forecast increases in staff numbers, salaries, relocation and recruitment costs, plus increased advice on regulatory issues, a strategic review of information technology architecture and treasury and taxation issues;
- A reduction of \$2.4m in expenditure for Investigations due to a reduction in the work for grid investment analysis. Investigations for the 400kV North Island and HVDC inter-island link had been largely completed;
- The Economic Value adjustment increased by \$10.7m resulting in an increase in the EV rebate (i.e. a reduction in transmission revenue). The EV account balancing mechanism is described in more detail in Section 3;
- Commercial rebate of \$17m. In 2005/06 the Transpower Board decided to offer a commercial rebate to DC customers of \$17m, with the effect that there was no change in average prices for HVDC customers (as well as HVAC customers) at 1 April 2005. Prior to the 2006/07 revenue setting round, the Board decided that the rebate would go to the shareholder account (rather than the HVDC customer account).

6.5.2 Building Blocks Analysis of Five Year Price Increases

454. As discussed above, transmission prices are expected to increase on average by 13% over the next five years (i.e. from 2005/06 to 2010/11). Approximately three-quarters of the 13% increase in prices is due to anticipated increases in the capital charge (and associated tax charge) as a result of the forecast increase in the asset base.

455. The 13% increase is purely indicative at this stage. It was a forecast, based on the information available, in November 2005, at the time of the announcement of 2006/07 prices. This projection was based on the GUP as submitted to the EC in September 2005 and is subject to a number of investment approval decisions from the EC.

456. Figure 6.5 illustrates the factors behind the change in revenue requirement and overall customer prices by reference to the building blocks.

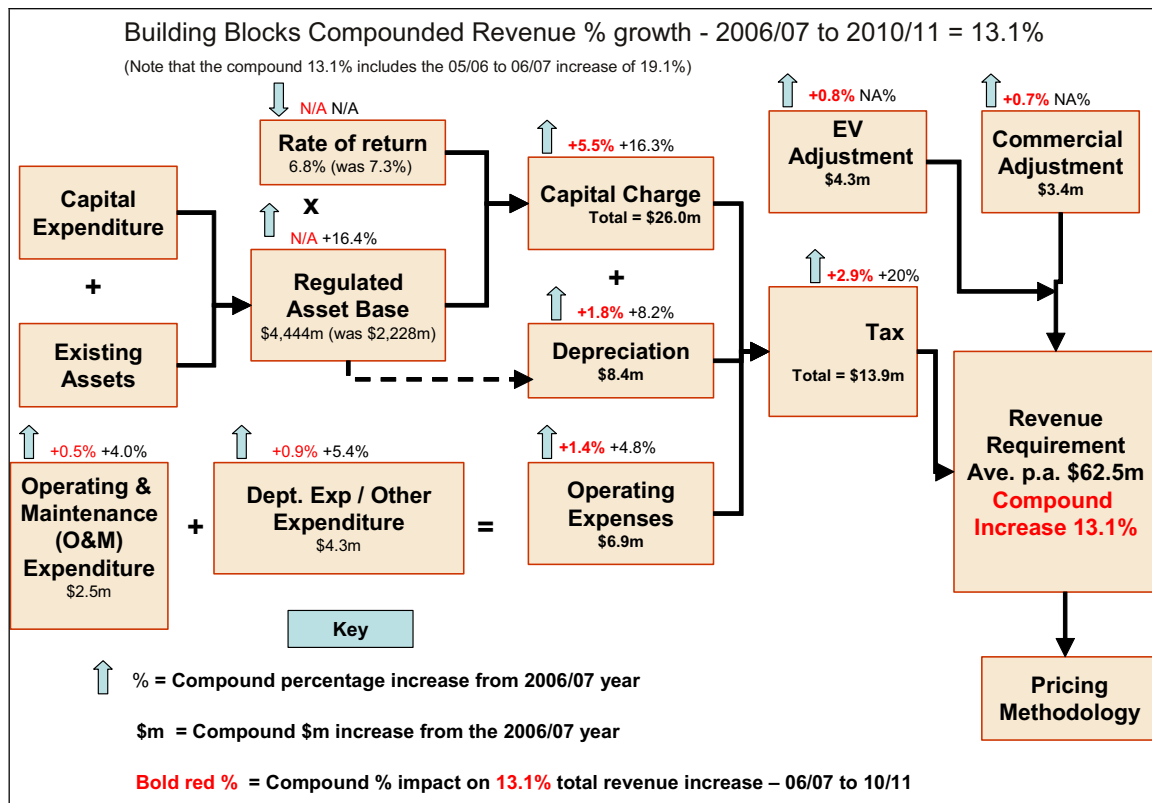


Figure 6.5: Increase in Revenue Requirement between 2005/06 and 2010/11

457. The average annual increase in revenue requirement of 13% anticipates from cost increases across a number of different building blocks. Price increases, in the main, are contingent on Transpower’s proposed capital investment programme going ahead as planned, following approval by the EC. Increases in capital charge and depreciation dominate the increases in the revenue requirement.

458. The following summarises the main reasons for the forecast average 13% increases in prices over the five year period:

- Operating Capital and Capital Charge (5.5%). Increases from 2007/08 to 2010/11 are attributable to the increases in Transpower's capital expenditure programme and the flow on effect to the capital charge, depreciation expense and the taxation shield. Transpower's regulatory asset base is forecasted to grow to \$4.4b from \$2.0b by 2010/11. This amounts to an increase of \$2.4b over 5 years and explains \$26.0m of the \$62.5m average annual revenue growth.
- Taxation (2.9%). The tax increase is made up from the increase in the regulatory asset base and accounts for 2.9% of the 13% increase. This explains \$13.9m of the \$62.5m average annual revenue growth. Taxation is expected to increase from \$63.9m in 2005/06 to \$148.8m in 2010/11. Taxation is mainly based on Transpower's capital charge, which is in turn based on Transpower's regulatory asset base. The capital charge requires a tax shield uplift to enable full recovery of the capital charge (refer Section 3).
- Depreciation (1.8%). Total depreciation and write offs for 2005/06 for the 2005/06 period is \$117.4m and is forecasted to increase to an annual charge of \$167.6m during the 2010/11 period. It is forecasted that the increase in depreciation charge accounts for 1.8% of the overall 13% increase. This explains \$8.4m of the \$62.5m average annual revenue growth.
- Operations and Maintenance (0.5%). O&M expenditure accounts for 0.5% of the 13% increase to 2010/11 explaining \$2.5m of the \$62.5m average annual revenue growth. Total O&M expenditure for 2005/06 is \$95.8m and is forecasted to increase to \$110.1m during 2010/11. The increase impacts all O&M categories including transmission and substation maintenance and communication and IT.
- Departmental Expenditure (0.9%). This expenditure accounts for 0.9% of the 13% increase to 2010/11 and explains \$4.3m of the

\$62.5m average annual revenue growth. Total departmental expenditure for the 2005/06 period is \$117.0m and is forecast to increase to \$141.6m during the 2010/11 period. The increases are mainly explained within the 19% 2006/07 movement.

6.6 Summary

459. Transpower's last significant investment in transmission capacity was during the 1960s and 1970s. With the grid approaching full capacity in critical areas, investment is now required to augment the grid – and must be undertaken on a compressed timetable. Based on Transpower's current projections, capital expenditure of \$2.4b is required over the next five years. The major projects are new transmission lines investments and an upgrade of the HVDC inter island link (refer Table 6.2).
460. The expenditure incurred by Transpower in relation to the North Island 400kV project, in advance of EC "formal" approval of the scheme as a whole, is a direct result of the timing of the creation of the EC and not an attempt to circumvent the EC's approval processes. Similar, transitional and timing issues are not expected to arise with future projects.
461. The increase in the revenue requirement and aggregate transmission prices of 19.1% announced to take effect from 1 April 2006 arises because of increased costs across a number of the different building blocks. It is important to note that this increase is not being driven by pre-funding of yet to be approved projects as has implied. To the extent that price increases relate to the 400kV project these are supported by statements from Government and the EC about the importance of Transpower continuing with its preparatory works.
462. Transpower's revenue requirement, which determines price increases, is derived by using a conventional building blocks model (described in earlier sections). Approximately 75% of the anticipated increase in prices, over

the five year period, results from the increasing capital charge (and associated tax charge) as a result of an increasing asset base.

7 PRUDENT AND EFFICIENT EXPENDITURE

7.1 Introduction

463. Section 3 of this submission describes how Transpower sets its revenue requirement by using a building blocks model which explicitly targets zero excess returns over time. Sections 5 and 6 describe the application of this model to set Transpower's revenue requirement in the recent past and in the future. These sections described how the resulting price increases are driven by, inter alia, a large programme of capital expenditure and the associated need to expand Transpower's capability in terms of engineering and support functions as well as human resources, IT, regulatory, and risk management functions.

464. Transpower believes that its expenditure is prudent and justified and that it has the necessary business controls and processes in place to ensure that it operates efficiently. This section briefly discusses the processes that Transpower follows to ensure that its building blocks costs are efficient.

7.2 The Business Plan and Grid Upgrade Plan

465. The business plan, in conjunction with company policies and procedures, ensures that proper and consistent business controls are applied throughout the Company. The business plan is developed to accord with the requirements of Transpower's SCI with an overall objective to improve the efficiency of its services, whilst optimising asset reliability and availability. The business plan sets out the delivery and financial objectives for the year ahead in the context of a rolling five-year strategic forecast.

466. The business plan defines plans for delivering operational efficiencies and enhancements in the year ahead. For example, the current business plan (2005/06) sets out the following initiatives:

- Establishing period contracts for circuit breakers and transformers reducing planning requirements and increasing certainty of delivery and price;
- A revised transformer management strategy to improve investment efficiency with respect to refurbishment and reduction of failures;
- Development of procurement and contracting support strategies to facilitate the increased purchasing throughput associated with the increasing grid works;
- Development and implementation of a new human resource information system to provide management with information on the skills and resource utilisation of Transpower's employees, thereby improving HR performance, employee retention, and reducing employment costs in the medium to long term;
- Development and implementation of a time management system to enhance accurate and timely monitoring and reporting of financial information on projects at a more disaggregated level than has been possible previously.

467. Long-term planning scenarios and capital investment plans (for both reliability and economic investments), as well asset maintenance plans, are set out in detail in the 2005 Grid Upgrade Plan (previously covered by the Transpower Asset Management Plan and Future of the National Grid).

7.3 Asset Maintenance Planning

468. Approximately, 50% of Transpower's annual operating expenditure is associated with asset maintenance and as such this area has a significant influence on the company's annual revenue requirement. The low levels of capital investment in the past mean that many of Transpower's assets are now reaching the end of their useful life, with an associated increase in asset maintenance costs.

469. Transpower's asset maintenance programme has been developed over a number of years to ensure that existing grid assets are in a serviceable

condition for the duration of their predicted life by either replacing components or carrying out preventive maintenance. Transpower balances the cost of repairs and replacement against the consequences of asset failure.

470. Asset development plans are based either on detailed per asset cost/benefit analyses or a cost benefit analysis applied to the asset policy, before sign-off and implementation. Cost/benefit analysis is based on the whole-of-life cost, which includes future maintenance costs, outage costs, risks of failure and potential penalties.

471. Major refurbishment and replacement work only proceeds after economic analysis to determine the most cost-effective solution. Maintenance expenditure is aimed at reducing the life-cycle costs of assets. The frequency and degree of inspection/repair are balanced against the need for refurbishment or replacement of components. Investment in new, low-maintenance equipment is balanced against the cost of maintaining existing equipment while providing reliability, availability and quality of supply.

7.4 Competitive Procurement

472. Transpower competitively tenders work to maintain, operate and develop its assets in accordance with the company's asset management plan as set out in its Grid Update Plan. Transpower nevertheless retains responsibility for ensuring that appropriate policies and procedures are in place and for ensuring that these are adhered to.

473. Contractors work within an alliance framework that incentivises all parties to deliver against defined key performance indicators. These incentives link contract remuneration to performance measures, in areas such as safety, system performance, continuous improvement, service delivery, planning and financial performance. The current alliance arrangements, which have been in place for three years, ensure that contractors invest appropriately for the long term. Continual improvement is measured by

ensuring that maintenance practices and costs are routinely benchmarked against Transpower's international peers. This process provides benefits to Transpower's customers through unlocking efficiencies in contracted works.

7.5 Business Support Expenditure

474. Business support expenditure covers all aspects of Transpower's activities other than those directly associated with asset management implementation. Overall governance is provided by Transpower's Board and Executive who ensure that the appropriate systems and practices are in place.

475. Transpower's assurance framework to ensure business performance is based on a three pillar model. The three pillars are:

- Understanding of the processes of the company – these have been mapped out in accordance with the requirements of the Sabine Oxley Act.
- Appropriate business controls – this includes company policies, manual procedures (e.g. approvals), and automatic procedures (e.g. computer based controls within the accounting system). These have been significantly strengthened through the acquisition of more effective IT support systems (e.g. HRIS and FMIS) as well as reviewing, restructuring and developing an appropriate policy framework.
- Adherence to external standards – legislation, regulations and appropriate business standards that Transpower chooses to adopt.

476. Internal Audit underpins this framework by providing objective assessment as to whether the controls are effective in managing the processes of the company, and whether those controls comply with the external standards. Risk management overlays the framework by guiding attention and resources to the priorities that are most critical.

477. Since 2004, Transpower has moved to adopt a number of appropriate internationally recognised practices including ASNZ 4360 Risk Management, the COSO framework for controls, ANZS 4801 Safety Standard, PMBOK Project Management Standard, and the COBIT framework for IT Governance.

478. A range of more specific controls are in place to ensure that only necessary and appropriate expenditure occurs. These include:

- Delegated financial authority;
- All recruitment signed off by CEO;
- All international travel signed off by CEO;
- Approval mechanism for purchase orders by level of seniority;
- Procurement policy and controlled signoff;
- Tendering policy for capital and operating contracts;
- IT Capital Governance body and business case approval board;
- Business plan and budget control;
- Monthly reporting on all P & L expenditure;
- Individual cost centre reviews;
- Transactional reporting;
- Performance management policy;
- Recruitment policy.

479. Similar to that outlined in Section 7.3 for asset maintenance expenditure, major business support expenditure is only approved following business case analysis and is monitored on the basis of delivery against the business plan objectives.

7.6 Benchmarking

7.6.1 International Transmission Operations and Maintenance Study

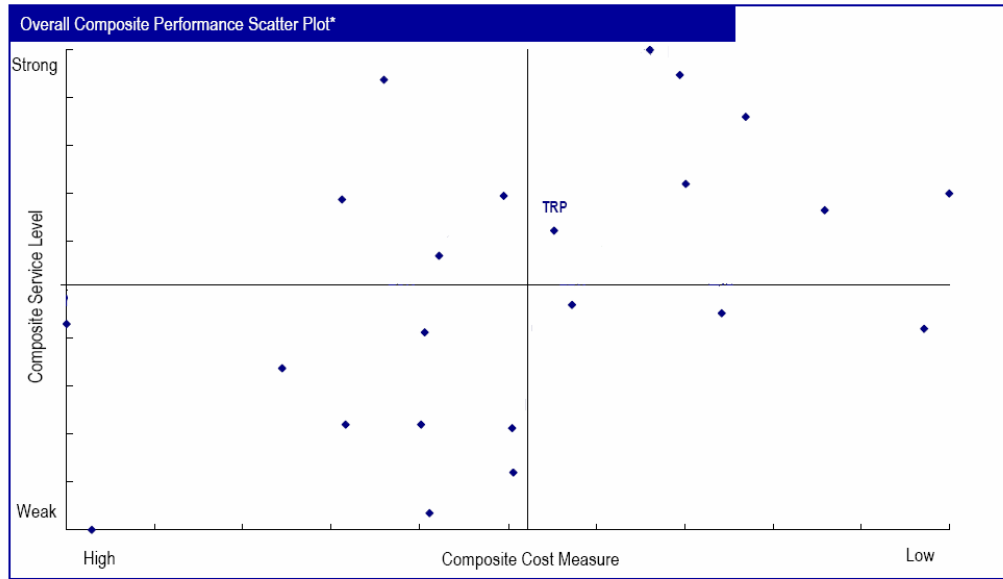
480. Whilst Transpower has reservations about the use of high-level international benchmarks to draw firm conclusions on comparative (and

absolute) efficiency, benchmarks are used by Transpower to monitor cost and service trends and to highlight areas of potential cost anomaly or cost outliers which may require further scrutiny.

481. Transpower benchmarks its maintenance policies and costs against an international group of transmission companies on a biennial basis by participating in the International Transmission Operations and Maintenance Study (ITOMS).
482. The study provides Transpower with comparative information on its unit costs and operational practices against a world-wide group of transmission businesses. Companies operating at the “efficiency frontier” and utilising leading edge processes are identified via the study and the processes and practices they use are shared amongst participants.
483. As with most benchmarking exercises, there are inherent difficulties in normalising datasets between companies to ensure truly like-for-like comparisons. Company specific factors such as network conditions (topography, climate, locations, layout and density), network environment (including jurisdictional, regulatory and legislative issues) asset age, asset construction standards, relative cycles of capital expenditure and accounting treatment are all factors that can skew the results (both positively and negatively).
484. Transpower uses the results from ITOMS as an “indicator” to highlight possible areas of deficiency where more detailed internal analysis can be targeted. This information feeds directly into asset management planning and the business plan, as well as helping to set key performance indicators across the business. Transpower publishes the results from ITOMS in its “Quality Performance Report”.
485. The results from the 2005/06 ITOMS were made available to Transpower in February 2006. The overall composite benchmark measure, which considers both service level and cost, is perhaps the most relevant benchmark for comparative purposes. This is shown graphically in Figure

7.1. Transpower is ranked as an above average performer (for both service level and cost) when compared against the 20 other international transmission businesses in the study group.

Overall Composite Benchmark – Weighted Average**



**Weighted average indicates that each sub-function component score was weighted by the % spend in that sub-function
Average lines indicate the average of the peer group

* Includes Overhead Line Patrol & Inspection 100-199 kV and 200+ kV, Overhead Line Maintenance 100-199 kV and 200+ kV, and Right-of-Way Maintenance, Breaker Maintenance, Transformer Maintenance, Relay, SCADA & Communications System Maintenance, Compensation Equipment Maintenance, Disconnect & Earth Switch Maintenance, Instrument Transformer & Other Circuit End Equipment Maintenance, Substation Site & Auxiliary Plant Equipment Maintenance, Substation Field Operations.



Figure 7.1: Overall Composite Benchmark Measure ITOMS Report 2005

7.6.2 Quality Performance Report and Benchmarking

486. Each year Transpower produces a Quality Performance Report available via www.transpower.co.nz. This report provides data on the performance of the company's assets, performance information for the overall grid, as measured against the SCI targets, and performance for various asset classes and at individual customer connection points.

487. This, together with results from ITOMS benchmarking against other electricity grids, provides Transpower with an objective means to measure the effective implementation of its asset management programmes.

7.6.3 Comparison of Transpower's Operating Expenditure with TNSPs

488. High-level benchmarks using total operating cost data (i.e. operating and maintenance expenditure plus other departmental business support expenditure) can be useful in providing indicative information on how aggregate operating expenditure compares with similar companies within the sector. Unit cost denominators such as asset value, transmission line length, number of substations, peak demand, and electricity transmitted are commonly used as (imperfect) proxies for network size.
489. However, it is generally recognised that simple comparisons on this basis, have to be treated with some caution. Indeed, the ACCC recognised this in comments on benchmarking used in the TransGrid draft decision in 2004.⁹⁴ While in theory data sets may be normalised for differences such as asset stock configuration, valuation methodology and age profile, cost allocation and accounting policies and for differences in exogenous cost drivers relating to the physical and commercial environment, the practical reality is that such normalisation is rarely satisfactory or conclusive. Despite companies' best efforts, much of the data on which cost functions are estimated remains subject to margins of error which are sometimes significant. In April 2004, the Commission noted that insufficient information was available on which to establish a robust comparative benchmark approach for Transpower.⁹⁵

⁹⁴ The ACCC states that – “Several factors affect the fair comparison of operating expenditure among transmission companies. These include varying load profiles, load densities, asset age profiles, network designs, local regulatory requirements, topography, climate and accounting practices.

The ACCC understands that comparisons based on partial measures are not very meaningful. Nevertheless, different measures used in combination can help to assess whether a TNSP's operating expenditure is reasonable. “ NSW and ACT Transmission Network Revenue Caps – TransGrid 2004/05-2008/09, April 2004 page 33, available at

<http://www.aer.gov.au/content/item.phtml?itemId=680080&nodeId=file42ba3f9e2caf3&fn=TransGrid>

⁹⁵ Commerce Commission –“Regulation of Electricity Lines Businesses, Targeted Control Regime, Threshold Decisions (Regulatory Period Beginning 2004) – 1st April 2004.

490. Nonetheless, and with the above caveats, Table 7.2 sets out a summary of Transpower's aggregate operating expenditure benchmarked against data obtained (using published data) for Australian TNSPs.

TNSP's		2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
Opex/GWh	Transpower	4	5	4	4	5	5	5	5
Opex/substation	Lines Business	922	1024	823	964	1031	1048	1062	1070
opex/line length (circuit)		9	10	8	10	10	11	11	11
opex/line length (route)		13	15	12	14	15	15	16	16
Opex/MW peak		26	29	23	26	28	28	28	27
Opex/GWh	Powerlink	1	1	1	1	1	2		
Opex/substation		607	657	679	700	661	744		
opex/line length (circuit)		5	5	5	6	5	6		
opex/line length (route)		7	7	8	8	7	8		
Opex/MW peak		8	9	9	9	9	10		
Opex/GWh	SPI/Vencorp	1	1	1	1	1	1	1	1
Opex/substation		1193	1368	1727	1727	1736	1734	1736	
opex/line length (circuit)		8	9	12	12	12	12	12	
opex/line length (route)		14	16	20	20	20	20	20	
Opex/MW peak		6	7	9	9	9	9	9	
Opex/GWh	TransGrid	1	1	2	2	2	2	2	2
Opex/substation		1291	1312	1333	1556	1590	1625	1661	1699
opex/line length (circuit)		8	9	9	10	10	11	11	11
opex/line length (route)		10	10	10	12	12	12	12	13
Opex/MW peak		8	9	9	10	10	11	11	11
Opex/GWh	ElectraNet	3	3	4	4	4	4	4	
Opex/substation		526	574	623	621	627	636	639	
opex/line length (circuit)		6	7	8	8	8	8	8	
opex/line length (route)		8	8	9	9	9	9	9	
Opex/MW peak		13	14	15	15	15	15	15	
Opex/GWh	Transend	2	2	2	3	3	3	3	3
Opex/substation		448	505	566	620	665	619	604	602
opex/line length (circuit)		6	7	7	8	9	8	8	8
opex/line length (route)		9	10	11	12	13	12	12	12
Opex/MW peak		12	14	16	17	18	17	17	17
Opex/GWh	ACCC Draft	1	1	2	2	2	2	2	2
Opex/substation		1291	1312	1333	1424	1415	1407	1398	1371
opex/line length (circuit)		8	9	9	9	9	9	9	9
opex/line length (route)		10	10	10	11	10	10	10	10
Opex/MW peak		8	9	9	9	9	9	9	9
Opex/GWh	Energy Australia	1	1	1	1	1	1	1	1
Opex/substation		863	820	799	804	799	827	849	870
opex/line length (circuit)		25	24	24	24	24	24	25	26
opex/line length (route)		27	25	25	25	25	26	26	27
Opex/MW peak		11	10	10	10	10	10	11	11

Table 7.2: Ratio analysis of Transpower compared to other TNSPs (all figures AUD)⁹⁶

491. Transpower's costs used in Table 7.2 cover all aspects of the lines business, including HVDC, but exclude costs associated with System Operator activities contracted to the EC. Operating expenditure excludes

⁹⁶ Figures are presented in \$real terms (2002/03 base year). In presenting these ratio analyses Transpower has made every effort to ensure that data is presented on a comparable basis to that used by the ACCC. All data, except that for Transpower, has been sourced from "NSW and ACT Transmission Network Revenue Cap – TransGrid: Draft Decision" (28 April 2004), page 34 available at

<http://www.aer.gov.au/content/item.phtml?itemId=680080&nodeId=file42ba3f9e2caf3&fn=TransGrid> Transpower data sourced from revenue requirement for 2005/06 to 2006/07 and from the business plan for later years.

depreciation and finance costs. It should be noted that other TNSPs shown in the table do not have lower voltage assets or an HVDC link which Transpower has, and this can distort comparisons.

492. Transpower's costs when compared on either a circuit or route km basis indicate that Transpower is not an outlier. When the costs and assets associated with lower voltage assets and HVDC link assets, are excluded from Transpower data, Transpower's performance is very comparable with Australian TNSPs. Transpower's costs per substation are in the middle of the group, even with all Transpower costs included.
493. Transpower's operating expenditure per GWh and Operating expenditure per MW peak are higher than most TNSPs. When costs associated with lower voltage assets and HVDC link are excluded, Transpower's costs against these two measures are marginally higher than other TNSPs. Performance results against these two measures need to be treated with some caution as GWh and MW are imperfect measures of network size and complexity.
494. Transpower's total operating expenditure is not out of line with that expected of a business of Transpower's size, operating in the New Zealand environment having regard to the topography, terrain, operating environment and customer base. In 2003 Transpower engaged KPMG to review the operating and maintenance expenditures of Australian Transmission Network Service Providers (TNSPs), and to compare Transpower's costs against the benchmarks obtained. Simple cost ratios, as used by the ACCC and its consultants to compare Australian TNSPs as part of the regulatory revenue determination process, were used as the basis of the comparison. One of KPMG's key conclusions was that there is no single measure or ratio which can be used to benchmark TNSP operating expenditure, stating that factors such as total energy delivered, diversity of load, load factor, customer density, distances covered, and voltage levels generally make each TNSP somewhat unique in its own

operating environment. They confirmed that the ACCC has acknowledged this uniqueness in its decisions on TNSP required revenue proposals.

495. Further key factors affecting comparisons are accounting treatment and maintenance policies. For instance, the extent to which operating costs are allocated to, and capitalised with, asset investments, rather than expensed, and the treatment of some routine activities (asset replacement or refurbishment) as either capital or operating expenditure will influence the operating expenditure ratios presented above. Similarly, differences in policies and standards that determine the trade-off between replacement or maintenance of assets will also impact comparisons. In some senses a true picture can only really be gauged by looking at total costs (operating expenditure plus capital expenditure), considering an entities detailed accounting policies and viewing results over a timeframe approaching the life cycle of the assets.

496. Confirming Transpower's own, and more recent analysis, presented above, KMPG further concluded that:

“Transpower performs least well against the Australian TNSPs in terms of the ratio of operating expenditure to peak demand and asset values. However, because of an extensive network measured in circuit length kilometres, and a large number of substations, Transpower performs well on [all] the other performance measures, suggesting its OPEX is within the ranges demonstrated by the Australian TNSPs.”

7.7 Summary

497. Transpower has processes in place to ensure that its operations are productively efficient. These processes include the development of the Business and Grid Upgrade Plans, its asset maintenance planning, and competitive tendering. Transpower uses benchmarking to ensure its internal operations are efficient and is currently evaluating the further application of functional benchmarking targeted at aspects of departmental

expenditure not covered under ITOMS. While there are a number of difficulties in comparing transmission businesses, high level operating expenditure ratio analysis indicates that, compared to TNSPs in Australia, Transpower's cost performance is not an outlier when having regard to the nature and condition of the network and the operational environment.

8 NET BENEFITS OF CONTROL

8.1 Section Purpose and Key Points Summary

498. This section provides Transpower's response to the cost benefit analysis prepared by the Commission, and in so doing brings together the key arguments provided in the preceding sections of Transpower's submission.

499. Transpower strongly disputes the Commission's analysis and in this section demonstrates that the benefits of control are overstated and indeed are largely illusory, while the costs of control are understated and, in the case of indirect costs ignored. As a result the Commission's approach overstates the net benefits of control. Therefore, the Commission cannot be satisfied that the benefits of control exceed the costs.

8.2 Benefits of Control are Overstated

500. The Commission claims that there are five benefits of control. However, in Transpower's view the Commission's evidence does not support the existence of significant benefits.

501. The benefits of control that the Commission claims would, or could be, attained through control are:⁹⁷

- Reduction of excess profits implied from the supposedly unexplained 2005/06 threshold breach;
- Investment efficiency gains from the application of the GIT;
- Improved timing (delay) of investments as a result of the Part F approval processes;
- Lower cost implementation of investments;

⁹⁷ "Intention to Declare Control – Transpower New Zealand Limited", Commerce Commission, pg 11.

- More efficient time profile of prices.

502. The reasons why, in Transpower's view, these supposed benefits do not exist are discussed in more detail below.

8.2.1 Excess Profits Have Not Been Earned

503. Transpower has not earned excess profits in the past and does not expect to earn excess profits in the future. Control cannot, therefore, achieve benefits by reducing excess profits. In particular:

- The threshold is designed as a screening mechanism and is not a proxy for efficient prices. Revenues in excess of the threshold are not equivalent to excess profits;
- Transpower's building blocks based revenue setting regime and associated EV regime explicitly ensures that over time excess profits cannot be made;⁹⁸
- The ROI analysis undertaken by PwC demonstrates that excess profits have not been made and that Transpower has, on average, earned less than its WACC over the past twelve years (refer to Section 5 and PwC EV Report);
- The appropriate way to assess excess profits is through building block analysis (as described in the Commission's Assessment and Inquiry Guidelines). Such analysis would have confirmed that Transpower is not earning excess profits;
- Transpower has explained and justified its recent price increases and the reasons for breaching the threshold in terms of the building block costs that drive its revenue requirement (refer to Sections 5 and 6).

504. Each of the above points is discussed in more detail below.

⁹⁸ See PwC EV Report.

Inappropriate Application of the Threshold Regime

505. The threshold regime adopted by the Commission has always been understood to be a screening mechanism and not intended to be used as a method to determine excess profits. Indeed the Commission states in its Report that:

“The thresholds are a screening mechanism for the Commission to identify lines businesses whose performance *may warrant further examination...*”⁹⁹

506. For the Commission to use the thresholds for a different purpose is contrary to its own guidelines and indeed would represent a major and unannounced change in the regulatory regime. In effect the Commission would be converting the thresholds regime into a price cap. All lines businesses that breached the price threshold would be viewed as earning excess profits and thus would expect to be subject to price control.

507. The Commission has not demonstrated that the price path threshold corresponds to efficient prices. As discussed in Section 4, and in the NERA Report, the use of the thresholds as an efficiency benchmark is problematic for a number of reasons:

- The CPI-1% price threshold applied to Transpower by the Commission is inappropriate given the lumpy nature of investment and the complex nature of transmission services. The NERA Report notes from its research that, whilst a price path threshold is commonly applied to regulated distribution businesses overseas, only New Zealand and Singapore appear to use a price threshold for transmission regulation. Moreover, Singapore’s transmission system is probably closer in nature to a distribution system, leaving New Zealand as an outlier;

⁹⁹ “Targeted Control Regime: Assessment and Inquiry Guidelines”, Commerce Commission, 19 October 2004, Pg 6.

- The X-factor of 1% was based on limited data from distribution businesses. In the absence of any more relevant information, the X-factor of 1% was applied to Transpower as a pragmatic measure;
- There was no initial P_0 adjustment or adjustment to the X-factor over time to take account of Transpower's understated asset base and the fact that significant investment was imminent.

508. This issue of the efficacy of the threshold as a screening device was canvassed during the Unison Conference at which Professor Lew Evans stated:

“...it [setting the price threshold retrospectively] does insert a good deal of risk or aids the possibility that the P_0 was simply a stage in the price path of that firm that meant that the constraints were simply that it was going to have to breach with probability 1. And if it was going to breach with probability 1 then it's not really a screening device...”¹⁰⁰

509. Transpower endorses these comments as the probability of breaching the price path threshold set for Transpower was always going to be 1 given the imminent large scale build and the use of the building blocks approach to revenue setting.

The Recent Price Increases Are Justified

510. Sections 5 and 6 explain the reasons for the recent price increases that led to the breaches of the threshold. It is not intended to restate the justifications here, suffice to say that the price increases can be explained through analysis of changes to the building blocks underpinning the revenue requirement.

¹⁰⁰ “Unison Conference Stage II – Transcript 5 December 2005 (Open Session)”, Professor Lew Evans, Charles River Associates, 5 December 2005, Pg 180.

Transpower's EV Regime Ensures Excess Profits Cannot be Made

511. The PwC Report demonstrates that the EV regime is effective in ensuring that Transpower does not earn excess profits over time. Indeed, the whole purpose of the EV regime is to ensure that Transpower does not earn excess profits. The fact that Transpower implemented EVA analysis in 1996 and the EV regime in 1999, well before the Commission's Part 4A targeted control regime came into existence demonstrates that Transpower has always been mindful of the need to address concerns about its ability to abuse its monopoly position.
512. In its Report, the Commission does not acknowledge the existence of the EV regime. Had the Commission done so, its only reasonable conclusion would be that Transpower could not prima facie, earn excess profits as long as it applied the EV principles correctly. In turn this means that Transpower could only be accused of inappropriate application of the methodology. However, the Commission has not undertaken any building block analysis and hence cannot be satisfied that Transpower has made excess profits. In fact based on the Commission's analysis undertaken thus far, the most reasonable conclusion is that Transpower has not made excess profits.
513. The application of the EV regime is relevant to both the forward and the backward looking assessment of excess profits. In other words, the EV regime has ensured that Transpower has not earned excess profits and will continue to ensure that excess profits cannot be made.
514. As discussed in Section 4, if the Commission is in fact concerned that Transpower's "unexplained" threshold breach is caused by inefficient costs, the Commission's Report is not explicit in this regard. Accordingly it is difficult for Transpower to respond. However, Transpower believes that its operations are efficient as described in more detail in Section 7.

Transpower has not Earned Excess Profits

515. As discussed in Section 5, PwC has demonstrated that, over the past twelve years Transpower has not made excess profits. Whilst in some years Transpower earns more than its WACC, this is more than offset by earning less than WACC in other years. Over-recoveries are generally due to asset revaluations, which are treated as income. Any excess earnings are returned to customers over time in line with Transpower's EV approach. Over the twelve year period, Transpower has earned less than its WACC, even if the large 1998 downward revaluation is excluded from the analysis.
516. The fact that Transpower has not made excess profits indicates that its behaviour has been appropriate and not contrary to section 57E. Given that the future price increases indicated by Transpower are based on the same building blocks methodology that Transpower has used for the past twelve years, the Commission cannot reasonably assume that the increases will result in excess profits, regardless of whether they breach the threshold.

Transpower Applies Conservative Building Blocks

517. As discussed in Section 5, Transpower's treatment of asset optimisations is rigorous. Moreover, the ODV rules mean that Transpower does not get full recognition of the value of much of its capital expenditure as the ODV transmission asset replacement costs are out of date. As a result, Transpower's regulatory asset base value is understated. Further, Transpower's WACC is below the mid point WACC applied by the Commission in the Unison inquiry. Transpower has a number of business processes in place to ensure its costs are efficient (see Section 7 for more detail). Table 8.1 below, summarises the conclusions from Section 5 and Section 7.

Building Block	Summary Conclusion
Operating Asset Base	<p>The ODV value understates the true value of Transpower's asset base:</p> <p>(a) The ODV rules mean that significant efficient and prudent expenditure is not recognised;</p> <p>(b) Transmission replacement costs are out of date</p>
Rate of return	<p>Transpower has a well established WACC methodology. Transpower's estimated WACC has consistently been below the Commission's WACC estimate.</p> <p>Transpower has not sought a marginal return above WACC to compensate for optimisation risk.</p>
Depreciation	<p>Depreciation, which is a function of the asset valuation methodology, is lower as a consequence of Transpower's conservative asset base.</p>
Tax	<p>Transpower's revenue requirement uses a cash tax policy, which provides the timing benefits of tax depreciation to customers.</p>
Operating Costs	<p>As discussed in Section 7 Transpower has a number of policies and tools, including benchmarking, which it applies to ensure that its operating costs are efficient.</p>

Table 8.1: Analysis of Building Blocks

Building Blocks Analysis Should be Used

518. As discussed above, a backward looking building blocks analysis is the only satisfactory way of determining whether Transpower has earned excess profits. The Commission appears to accept this point in its Assessment and Inquiry Guidelines. The Commission has the data needed to undertake a building block analysis as a result of its Section 98 information requests. Furthermore, Transpower has always been and remains willing to answer any queries that the Commission may have regarding Transpower's revenue and the revenue setting processes.

519. Transpower notes that the Commission asked NZIER whether there were any other reasons that could explain the breach.¹⁰¹ In response, NZIER also acknowledges the importance of using a building block regime in commenting that

“Of course, in a building block analysis to establish the best estimate of the actual breach...”¹⁰²

520. In summary, the lack of a backward looking building blocks analysis means the Commission has not undertaken the necessary analysis to determine whether excess profits exist and hence cannot be satisfied that excess profits have been earned.

8.2.2 Investment Efficiency Gains

521. The Commission claims that without control, Transpower’s investment choices are likely to be inefficient. It is unclear from the Commission’s Report why it thinks this might occur. This belief may stem from a misplaced expectation that Transpower will, where investment approval is required, ignore EC decisions and invest in any event. This is not the case. Transpower will in seek EC approval of transmission investments where such investment is intended under Part F. Transpower therefore contends that the calculated benefits of \$117 million to \$234 million would not arise from control.

522. If the EC approves Transpower’s proposed investments, then there are no benefits from control. If, however, the EC determines that Transpower’s proposed investments are inefficient, it will decline approval and not allow Transpower to recover the costs of such declined investment.

523. The Commission’s claim of efficiency benefits implies that the regulatory decisions of the EC would not be enforced, and that control is required to ensure the appropriate application of the EGRs. Using control in this way

¹⁰¹ “Transpower Post-Breach Inquiry: Further Analysis of Breaches – Report to the Commerce Commission”, NZIER, 28 November 2005, Pg 2.

¹⁰²Ibid, Pg 19.

would be an unusual and inappropriate application of the Commission's regulatory powers.

524. The simplistic methodology employed by the Commission to estimate the supposed investment efficiency benefits of control is, in Transpower's view, mistaken. The assumption that the EC is able to arrive at alternative investments that are 5% to 10% more efficient than Transpower's is itself questionable. The GIT process is designed to ensure that the Transpower only puts forward the most economically beneficial investments. However, to the extent that the EC process can deliver benefits, those benefits will be achieved with or without control.

525. Furthermore, the implication of the Commission's analysis is that the EC can only improve on Transpower's investment proposals (as there are only expected benefits, and no expected costs, see below) or that Transpower in some way is gaming the system to ensure inefficient investments are built. Transpower strongly rejects either suggestion. As the transmission service provider, Transpower is best placed to ascertain the most economically efficient investments. Further, Transpower has no financial incentive to game the EC as Transpower can only earn a WACC return (at most) regardless of the size of investment.

526. In summary, the benefit due to investment efficiency does not, in Transpower's view, exist. To be satisfied that the benefit does exist the Commission would have to demonstrate that:

- The EC is always better at making transmission investment decisions; and/or
- Transpower is going to ignore EC decisions and build unapproved inefficient investments; and/or
- Control is required to enforce the EC's decisions.

No factual basis for any of these conclusions has been demonstrated.

8.2.3 Calculation of the Benefits

527. Notwithstanding the above arguments, it appears that the Commission has overstated the benefits calculation for the following reasons:

- The calculation includes benefits associated with capital expenditure beyond a 5 year price control period;
- The calculation includes benefits relating to investments that are not subject to Part F procedures, but which instead are subject to the current ODV requirements.

8.2.4 Improved Timing of Investments

528. The Commission also claims that control will defer proposed investments by 1 to 3 years resulting in a benefit. Transpower contends that this is not a benefit of control and hence the calculated benefits of \$31 million to \$405 million do not exist.

529. The reasons are largely the same as those noted above in relation to inefficient investments.

530. Benefits of improved timing can only accrue if Transpower decides not to follow EC approvals and invests earlier than the EC has approved, and control under Part 4A would prevent this. As discussed above, Transpower intends to seek approval for investments that fall within the ambit of the EC's approval role under Part F. Hence the factual and counterfactual are again identical. The circumstances of the North Island 400kV project are specific to that project for the reasons outlined earlier in this submission and cannot be relied on as indicative of likely future behaviour.

531. Timing of transmission investment is at all times a matter of fine judgement and is made difficult because:

- Transmission projects have long lead times;

- Demand for transmission services can suddenly surge and so investment that did not appear to be required for several years can suddenly become more urgent;
- There are practical considerations that affect the timing of investments. For example, as the transmission system nears capacity, it becomes more difficult to take sections of the system out of service in order to undertake the necessary upgrades. Indeed, even though there may be capacity in the network, the practical considerations mean it may on occasion be more efficient to invest while there is a window of opportunity. Once the opportunity passes, and lines can no longer be taken out of service, back-up generation will be required when the upgrade is undertaken in order to preserve system security.

532. Hence, trying to finesse the timing of transmission projects is risky. The Commission's assertion that the EC will only create benefits through the deferral of transmission investments is unsupported. The costs of deferral are potentially significant and should not be ignored by the Commission.

533. The fact that the Commission does not claim larger benefits from longer deferrals implies that it recognises that there are costs associated with late investments.

8.2.5 Lower Cost of Implementation of Investments

534. The Commission has suggested that the benefits from implementing investments at lower cost *could* be significant.¹⁰³ Transpower notes that the Commission has provided no supporting evidence for this assertion and has not undertaken any analysis. Moreover, the Commission has not explained how this benefit is different from the investment efficiency gains discussed above.

¹⁰³ "Intention to Declare Control – Transpower New Zealand Limited", Commerce Commission, Para 239.

535. Any investments that do not require EC approval will only be added to the asset base at the value allowed under the regulatory asset valuation methodology. Under the current ODV methodology, inefficient investments are optimised out of the base. The Commission has indicated that alternative valuation approaches will be subject to an efficiency or prudence test which provides Transpower with incentives to optimise investment.¹⁰⁴ Transpower recognises that this is an issue and supports the Commission reviewing this aspect of the regulatory regime.¹⁰⁵

536. Transpower does not believe that the Commission can be satisfied that these benefits exist at all.

8.2.6 More Efficient Time Profile of Prices

537. The Commission claims that there are likely to be benefits from a more efficient time profile of prices and that these benefits could be significant.¹⁰⁶ The Commission has not provided any evidence or undertaken any analysis to support these claims, or explained how this benefit is different from the investment efficiency gains discussed above. Furthermore, the Commission only states that these benefits could be significant. Therefore, in Transpower's view, the Commission cannot be satisfied that control will result in such benefits.

538. In Transpower's view, the transmission charges calculated under the building block approach provide an efficient time profile of prices. Delaying the recovery of operational costs or the return on investments to later periods would mean that Transpower would earn less than its cost of capital in the short term and would therefore have to earn more than its cost of capital in the future to offset this loss. Notwithstanding the

¹⁰⁴ "Valuation of Regulatory Asset Base: Decision Paper", Commerce Commission, 13 October 2005, Para 153, pg 38.

¹⁰⁵ "Submission to the Commerce Commission on Regulation of ELB's: Valuation of the Regulatory Asset Base Decision Paper (Public Version)", Transpower, November 2005, Chapter 5, pgs 21 and 22.

¹⁰⁶ "Intention to Declare Control – Transpower New Zealand Limited", Commerce Commission, Para 239.

regulatory risks involved in such a regime, it is difficult to see why the resulting profile of prices would be more efficient than adhering to the building blocks approach on a period by period basis.

539. Transpower acknowledges that the revenue requirement methodology results in customers paying for some investigation and preparatory costs as they are incurred. However, the quantum of revenue is relatively small. Further, as discussed in Section 5, the EC has acknowledged that Transpower will need to undertake such work to prepare investment proposals for approval.
540. Transpower does not currently recover the costs of investments until they are commissioned. In its submission on the Regulatory Asset Base Decision Paper, Transpower has argued it should be allowed to bring works under construction into the asset base to relieve balance sheet pressure during the period of intense construction. However, it will not do this unless the approach is approved by the Commission.

8.2.7 Final Comments on the Benefits Analysis

541. In summary, Transpower believes that the Commission has failed to establish that any of the listed benefits exist, let alone establish on any reasonable basis the quantum of those benefits. To the extent that investment efficiency benefits may arise from the role of the EC and the operation of the EGRs, these benefits would arise in both the factual and the counterfactual. To suggest otherwise is to suggest that control is required to ensure the appropriate application of the EGRs. Transpower rejects this suggestion.
542. Similarly, there is no substantive case for the claim that Transpower is making excess profits now or in the future. Transpower's pricing approach explicitly targets zero excess profits over time.
543. Moreover, as discussed below, it is unrealistic to assume that the impact of control or other regulatory constraints on the costs or timing of new

investments will make only result in expected benefits and not also lead to expected costs.

8.3 Costs of Control Have Not Been Fully Considered

544. The Commission's analysis focuses on its claimed benefits of control but does not fully consider the costs of control, and in particular completely ignores the indirect costs of control. Whilst Transpower acknowledges that some of these costs are difficult to calculate, this does not obviate the need for the Commission to attempt such analysis.

8.3.1 Indirect Costs Associated with Delayed Investment

545. As noted above, the Commission suggests that investment deferral can only result in benefits and no costs arise. This is not a credible assessment.

546. There are two key reasons why the Commission should quantify the indirect costs of control associated with investment decision making:

- The costs of delaying transmission investment are potentially significant. An unreliable power system will have significant negative economic consequences. These consequences can extend well beyond the narrow confines of the transmission market. The reliance placed economically and socially on a reliable electricity supply means that an unreliable national grid would have serious consequences for the economy at large (including potential damage to New Zealand's international reputation), as well as a more direct negative impact on the lifestyles of individual consumers. It is widely acknowledged that the costs of being "just too late" with transmission investment outweigh the costs of investment being "just too early". In other words, there is a risk that the Commission may get it wrong, and this needs to be acknowledged, otherwise any benefits calculation will be significantly overstated;

- There are well established practices for undertaking the analysis required to calculate the indirect costs of control. The Grid Investment Test is one example.

547. Noted below are some of the more readily quantifiable indirect costs that the Commission should consider:

- A delay in investment or non-investment will either result in increases in lost load (through unexpected outages as assets fail) or in non-supply (as load exceeds the capacity of lines) both of which have significant economic consequences;
- Delaying investment may have significant practical impacts such as:
 - Reducing the ability to obtain outages in the system to physically undertake the upgrades;
 - Affecting the availability of staff and physical resources;
 - Resulting in increases in costs assuming recent trends in raw material prices continue;
- Non-investment in transmission will also affect the competition benefits associated with transmission investment;
- Price constraints that affect Transpower's cash flows will affect Transpower's credit rating and ability to raise debt. This is a cost of control that will be incurred regardless of whether the EC "gets it right" or not.

548. Before analysing each of these indirect costs of control in more detail it is worth noting that all of Transpower's reliability or economic investments will be subject to an economic test.

549. Investments are undertaken for some or all of the following reasons:

- Reliability or security (i.e. ensuring that the power system can remain in a secure operating state after experiencing one or more contingent events e.g. ensuring that an appropriate security level – Grid Reliability Standard or GRS - is maintained, such as "n-1");

- Capacity (i.e. ensuring that there is sufficient capacity to supply the required demand);
- Economic (i.e. the removal of transmission constraints or the promotion of competition between generators).

550. In practice, a particular investment does not provide just one of these dimensions of the service provided by transmission investment exclusively i.e. a reliability investment may also increase transfer capacity and may enhance competition. Similarly, there are other dimensions to the benefits of the transmission service that may also be valued (such as promoting sustainable resource development).

551. All investment decisions are based on sound economic principles. Each investment is required to go through the GIT process, to ensure that all investments have positive net benefits and/or maintain the GRS at least cost. Even in the case of investments to meet the GRS, there is an economic investment test implicit in the GRS (n-1 etc).

552. Given that all investments are subject to an economic test in some form or another, proceeding with investments would generally maximise net benefits. Thus, prima facie, any delay or curtailment of transmission investment is likely to have greater costs than benefits.

553. Furthermore, the regulatory arrangements are already biased towards delaying investment; the EC can only delay investment, it cannot bring it forward. Transpower itself does not have incentives to invest too early. Any further regulatory constraints that add to investment delays are likely to have significant negative efficiency costs.

8.3.2 Delay Causing Lost Load or Non-supply

554. Lost load or non-supply is the most significant potential cost of control. If the Commission's controls result in Transpower not undertaking or deferring needed investment, the reduced reliability of the grid will have serious consequences and costs.

555. As an indicator of the costs associated with lost load, the EC estimates that the value of lost load (VOLL) is \$20,000/MWh.¹⁰⁷ The VOLL estimate compares to the current cost of transmission of approximately \$15/MWh.

556. CRA has undertaken a high level analysis of the costs of delay related to the North Island 400kV project. The analysis indicates that a three year delay is likely to result in an annual cost of around \$100 million per annum.

557. It has not been possible to undertake a more detailed analysis of the costs associated with lost load due to the compressed timeframe for completing this submission.

8.3.3 Other Costs Associated with Delaying Investment

558. In addition to the costs of non-supply, there are significant other costs associated with delaying investment. Most of these issues are practical issues such as:

- Availability of outages in the system: With most capacity related investments, it is difficult to obtain the outages necessary to undertake the upgrades because the lines are close to full capacity. A delay of investment may miss the last window of opportunity for outages to allow investment to occur and result in the need to provide short term back up generation whilst the upgrade takes place. Such back-up generation is expensive to put in place and is only practical for moderate loads of around 10MW. Transpower has received quotes indicating that the fixed costs associated with obtaining 10MW back up generation for a period of 10 weeks will cost \$700,000. Variable operating costs are in addition, but if, for example, the generator operated on average at 50% capacity, 15% of the time (i.e. 7.5% of maximum cost) the variable costs would add up to

¹⁰⁷ Rule 8.3.4 of Part F4.

\$365,000.¹⁰⁸ Transpower estimates that back-up generation of approximately 150MW would be required to support an upgrade of the Otahuhu-Whakamaru line.

- Availability of resources – both internal and contractor staff and physical resources: Both Transpower and Transpower’s contractors are in the process of increasing its organisational capability to undertake the current phase of “tactical investments”¹⁰⁹ and the more significant investments over the coming 5 to 10 year period. In deciding to increase organisational capability, Transpower has balanced the difficulty of obtaining scarce resources in a timely manner, against the risks that the resource may not be needed if the investments do not go ahead. Given the need to develop an experienced and specialist labour pool, to which New Zealand has limited access, a delay to undertaking investment will increase costs. In assessing the effects of “arbitrary” investment deferrals, the Commission must take account of Transpower’s ability to access specialist staff at short notice.
- As noted in the previous bullet point, Transpower’s contractors will also need to be prepared to undertake significant construction work. This involves not only getting people trained and ready to undertake the construction, but also bringing in specialist equipment from overseas. The likely effect of increased uncertainty over project timings will be to increase project costs as contractors look to recoup losses and/or increase margins to cover the increased risk, or even to choose not to tender for such work.
- Expectation of cost increases: A further impact of delaying investments is that costs may continue to increase in the interim,

¹⁰⁸ Operating costs are estimated at 29 cents / kWh. Therefore, the variable operating costs will equal 10 weeks x 7 days x 24 hours x 29 cents x 10,000kW x 50% x 15% = \$365,000. The time the generator is operational is based on the generator being used 5 hours per day during peak periods.

¹⁰⁹ For example the Tactical Transmission Upgrades (TTUs) and Grid Development Proposals (GDP), discussed in Section 6.

making the project more expensive. Raw material costs, labour costs and exchange rates could worsen significantly over the near term if recent trends continue. Indeed, raw material costs have increased, in some cases, over 75% over the past two years and the NZ dollar is currently sitting at a cyclical high. Any cost increases above the rate of inflation assumed within the WACC would reduce the net benefits associated with delaying investments.

559. The above discussion serves to highlight that in any assessment of the supposed expected benefits of investment deferral “imposed” by the EC, there are also expected costs. The Commission’s analysis to date is asymmetric in this respect.

8.3.4 Lost Competition Benefits

560. A final indirect cost that the Commission needs to consider is the lost competition benefits that might occur if transmission investment is delayed. CRA has identified several benefits associated with transmission investment (that would be foregone if investment were delayed), including:

- Entry of lower cost generation in areas that are supply constrained;
- Mitigation of market power through increased intensity of competition;
- Dynamic efficiency gains through the delay of relatively high cost generation (and potentially demand-side investment as well).

561. These benefits will be lost if transmission investment is delayed beyond the efficient timing and therefore should be considered when undertaking a net benefits of control analysis.

8.3.5 Impact on Transpower’s Credit Rating

562. All of the credit rating agencies, Standard & Poor’s (S&P), Moody’s and Fitch Ratings (Fitch) are monitoring the Commission’s current inquiry closely, with S&P putting Transpower on negative watch for a further downgrade and Fitch recently releasing a credit negative outlook for New Zealand utilities. These independent credit rating agencies are citing the

uncertain regulatory regime and the Commission's increasingly interventionist stance as reasons for their negative outlook. Fitch state:

“The regulatory regime is now a hybrid of “light handed” and interventionist approaches, increasing uncertainty for industry participants. From a credit perspective, the stand-off between Transpower and the regulators is prolonging concerns for the NZ electricity sector. Fitch notes that from its international experience that under-investment in transmission can have dire affects and tends to occur for two main reasons: bottlenecks in the approval process and uncertainty in recovering costs and earning an adequate return on investment. Both of these factors are evident in NZ.”¹¹⁰

563. In placing Transpower on a negative credit watch following the release of the Commission's Report, S&P state:

- “The negative outlook also reflects the heightened uncertainty and lack of transparency in the New Zealand regulatory regime as it applies to electricity lines businesses.”¹¹¹

564. FNZC has calculated that a downgrade from Transpower's current rating in the AA band to the A band would increase Transpower's debt costs by approximately 21 basis points and a drop down to BBB status would increase debt costs approximately 54 basis points. A drop below investment grade quality to BB status will have greater consequences.

565. Figure 8.1 below calculates the annual impact on Transpower at various debt levels. In summary, Transpower is expecting debt levels to reach \$2.5 billion to \$3 billion within 5 years. A credit down grade is therefore likely to increase costs between \$5 million to \$10 million per annum.

¹¹⁰ “New Zealand Utilities: What's the Mix for 2006?”, Fitch Ratings, 6 February 2006.

¹¹¹ Press release, “Transpower Outlook Revised To Negative Due To Heightened Regulatory Risk”, Standard & Poor's, 6 February 2006.

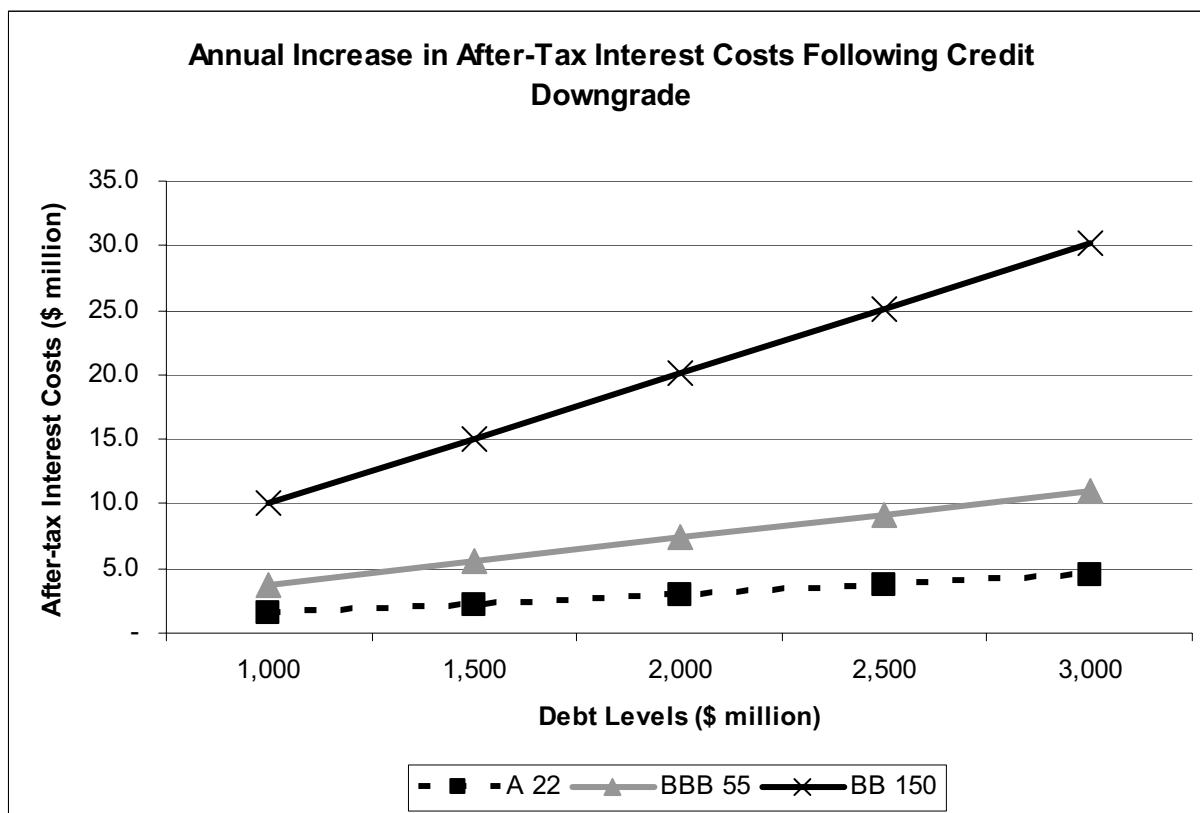


Figure 8.1: Annual Increase in After-Tax Interest Costs Following Credit Downgrade

566. In addition to the cash costs noted above, there are also significant but hard to quantify costs that Transpower would also incur. These costs include:

- Reducing Transpower's ability to access debt markets, increasing Transpower's exposure to market conditions in certain debt markets;
- The harming of Transpower's reputation with existing lenders;
- Affecting relationships with Transpower's contractual counter parties, suppliers and credit agencies;
- Increased management time and resource being spent on managing Transpower's debt position;
- An increase in the credit margin required on swap transactions; and
- The requirement to post collateral as part of the cross-border lease agreement.

567. Transpower acknowledges that some regulators believe that a BBB credit rating is sufficient for utilities. Whilst this may be the case, and may be

appropriate in certain circumstances, the current outlook for Transpower and New Zealand in terms of the relative scale of investment requirements is unusual. Ultimately, the key issue is the extra cost that would be incurred through a significant decline in Transpower's credit rating. These costs would not be incurred if control was not imposed, and therefore they should be viewed as a cost of control.

8.3.6 Increase in Control Based WACC

568. The Commission has not undertaken a building blocks analysis. Had it done so the Commission would need to address the fact that a control based WACC would be approximately 185 basis points higher than a non-control based WACC. Whilst it can be argued that the WACC issue is a matter for the "how to" decision, in Transpower's view the Commission should have regard to it in the "whether to" decision.

569. The Commission's WACC advisor, Dr Lally concludes that the mid-point for a non-control WACC should be 7.35%.¹¹² Dr Lally also states that under 5 year price control, the asset beta should increase from 0.4 to 0.5 and that it is appropriate to adopt a figure at the higher end of the range. Whilst there may be other minor parameter adjustments associated with 5 year price control, these are the material adjustments.

570. CRA has calculated that a 5 year price control WACC using Dr Lally's asset beta assumption and using a WACC one standard deviation above the mean should be 9.2%, or 185 basis points above the mid-point WACC. On Transpower's current asset base of approximately \$2 billion, this equates to an increase in revenue of \$55 million per annum.¹¹³ Transpower estimates that the asset base will be over \$4 billion within five

¹¹² "The Weighted Average Cost of Capital for Electricity Lines Businesses", Dr Lally, 8 September 2005, Pg 60. Note: the calculation on page 60 shows a WACC of 7.3%, however the 7.3% is a rounded figure and the calculation actually comes to 7.35%, which is the figure quoted above.

¹¹³ \$55 million = \$2 billion x 1.85% / (1 - 33%).

years, hence the annual impact of a control WACC will increase to \$110 million.

571. This analysis demonstrates that the benefits of control need to be very significant before control can be warranted. In Transpower's view, there are no benefits of control, yet control will impose an additional \$110 million per annum of costs on consumers (assuming the Commission follows its own advice with regard to WACC) in addition to the potential costs that arise from delaying investment and the direct costs of the regulatory regime.
572. To put the impact of applying a control WACC into context, Transpower's operating costs are around \$200 million per annum compared to an annual WACC impact of between \$55 million and \$110 million. Furthermore CRA calculate that over a five year period, the net present value of the WACC impact is approximately \$310 million.
573. These figures demonstrate the size of Transpower's business. So whilst the absolute benefit figures the Commission quote appear large, because of the size of Transpower's business, the costs of control are even larger.

Appendix 1

Transpower's Approach to the Preparation of Threshold Compliance Statements (TCSs)

Transpower's present approach to its TCSs was developed in seeking to provide a revised First Compliance Statement as required by the Commission, following the Commission's rejection of Transpower's original approach.

In determining its response to, and eventual rejection of, Transpower's original statement, the Commission sought advice from NZIER. Similarly, NZIER was engaged by the Commission to advise on Transpower's proposal for its approach to a revised TCS. In the course of formulating its proposal, Transpower was understandably keen to ensure agreement was reached with the Commission and its advisers before proceeding to compile its revised TCS. As a consequence there was significant dialogue with the Commission on the revised approach, including tripartite discussions between Transpower, the Commission and NZIER.

Transpower was of the view that agreement was reached as to an acceptable approach for a revised preparation of its first and subsequent compliance statements. Crucial in this approach was the calculation of "notional revenue" using "1" as the base quantity for the majority of specified services.

A draft letter was provided to the Commission, setting out how Transpower proposed to calculate "notional revenue" for the purpose of the revised First Compliance Statement and the Second Compliance Statement for the second assessment period, in order to resolve any issues prior to submitting the Compliance Statements.

Transpower proposed to the Commission, and understood that the Commission had accepted, that Transpower would:

- (a) Determine the price pertaining to each service by reference to the annual charges;

- (b) Use a base quantity of “1” for each service that was subject to charges that were classified as fixed in nature, and for services that were subject to variable charges would determine a base quantity by reference to the annual quantity of those services.

Transpower noted that, in keeping with the primarily fixed nature of transmission charges, and the largely fixed fees for system operator services, the only charge within the definition of “specified services” that is variable rather than fixed in nature is the charge (expressed as a rate of c/kW) that recovers the overhead costs for ancillary services procurement.

Transpower understood that, at a working level, the Commission was comfortable with this approach and, accordingly, Transpower filed a revised First Compliance Statement in October 2004.

The revised First Compliance Statement applied the clauses 5.1(a) and (b) price path thresholds by determining the “notional revenue” on the basis of prices for every specified service by reference to the annual charges for that service and applying a base quantity of “1” in the manner proposed by Transpower to the Commission.

Transpower has not subsequently received any objection or other comment from the Commission in relation to the manner in which Transpower had calculated “notional revenue” in applying the price path thresholds.

PwC, in their role as auditor of Transpower’s TCSs provides further comment on this issue (see PwC Compliance Statement Report).

Appendix 2

Review of Table 2 of the Commerce Commission's Report, Intention to Declare Control, 31 January 2006

Introduction

In its media release dated 31 January 2006, the Commission stated that “after allowing for volume and other adjustments “in favour” of Transpower the company breached its thresholds by \$14.3 million in 2004/05 and a \$35.8 million in the 2005/06 pricing year”¹¹⁴. The derivation of these adjusted breaches is presented in Table 2 of the Commission's Intention to Declare Control report¹¹⁵ (“Report”). This Appendix reviews Table 2 of the Commission's report and identifies apparent inconsistencies in the analysis underpinning the Commission's volume adjusted breaches.

The adjustments made by the Commission in Table 2 of the Report are based on the NZIER November 2005 report to the Commerce Commission¹¹⁶ (“NZIER report”). Transpower provides further comments on the NZIER report in Appendix 3 of this submission. Table 2 of the Report is reproduced as Table A below.

Note on volume adjustments

Transpower's comments below on the Commission's volume adjustment approach should not be construed as endorsing the Commission's approach.

¹¹⁴ Commerce Commission Release No. 93, Issued 31 January 2006.

¹¹⁵ Commerce Commission, Regulation of Electricity Lines Business, Target Control Regime, Intention to Declare Control, Transpower New Zealand Ltd, 31 January 2006, Table 2: Volume Adjustments Relative to Transpower's reported Breaches (2004/05 and 2005/06) p.47.

¹¹⁶ NZIER, Transpower Post-Breach Inquiry, Further Analysis of Breaches, Report to the Commerce Commission, 28th November 2005.

\$m	2004/05	2005/06
Recalculated Breach using Transpower's Revised Data after allowing for the EV adjustments in 2004/05 from Table 1	\$26.76	\$43.22
Notional Embedding Adjustment	-\$0.07	-\$0.28
Transitional Rebates Adjustment	-\$0.97	-\$0.97
Adjustments to Reflect Adjustments Made to 2003/04 Notional Revenue	+\$1.00	+\$1.00
Revised Breach Without Volume Adjustment	=\$26.72	=\$42.98
Adjustment to Threshold due to Volume Adjustment – AMD/AMI	+\$8.29	+\$8.29
Volume Adjustments – AMD/AMI	-\$20.73	-\$15.47
Revised Breach Including Potential Volume Adjustments – AMD/AMI	=\$14.28	=\$35.8

Table A: Adjusted Breaches as per Table 2 of the Commission report

Notwithstanding this reservation, Transpower wishes to make the following observations on the Commission's analysis.

Inconsistent treatment of the HVDC rebate

There would appear to be an inconsistency in the NZIER's derivation of the 2005/06 volume adjustment benefit based on AMD and AMI. The NZIER's volume adjustment for 2005/06 is derived by comparing Transpower's HVDC revenue inclusive of the HVDC rebate, as disclosed in Transpower's third compliance statement¹¹⁷, with the volume adjusted HVDC revenue¹¹⁸ exclusive of the HVDC rebate. This inconsistent treatment of the HVDC rebate underestimates the volume adjustment benefit by \$17.16 million and thus over-states the volume adjusted breach by the same amount. This is illustrated in Table B, where a corrected volume adjustment of \$32.63m is derived compared with the Commission's volume adjustment of \$15.47m.

¹¹⁷ Transpower, Commerce Act (Electricity Lines Thresholds) Notice 2004, Compliance Statement, Assessment Date (30 June 2005), 18 August 2005, p.11.

¹¹⁸ The volume adjusted HVDC charge is calculated using the year specific HVDC rate with the 2002/03 AMI as base quantity.

2005/06 pricing year	Rate/volume	\$m	\$m
HVDC and interconnection charges as reported in the 3rd Compliance Statement:			
Implicit 2005/06 AMI	3,278,062 kW		
2005/06 HVDC Rate (Exclusive of HVDC rebate)	\$23.14/kW		
HVDC Revenue – HVDC charge		+\$75.85	
HVDC Revenue – HVDC rebate		-\$17.16	
HVDC Revenue (net of HVDC rebate)			=\$58.69
Interconnection revenue			+\$371.14
Total HVDC and Interconnection Charges			=\$429.83
Volume Adjusted HVDC and interconnection charges:			
2002/03 Base quantity (AMI)	2,943,432		
HVDC rate (exclusive of HVDC rebate)	\$23.14/kW		
HVDC Revenue adjusted - HVDC charge		+\$68.11	=\$68.11
Adjusted Interconnection charge			+\$346.25
Total Volume Adjusted HVDC and interconnection charges (exclusive of HVDC rebate)			=\$414.36
Volume Adjustment as in the NZIER report			\$15.47
HVDC Revenue adjusted – HVDC rebate		<u>-\$17.16</u>	
HVDC Revenue (net of HVDC rebate)			=\$50.95
Total Volume Adjusted HVDC and interconnection charges (inclusive of HVDC rebate)			=\$397.20
Corrected Volume Adjustment			\$32.63

Table B: Revised Volume Adjustment Benefit for the 2005/06 Pricing Year

The inconsistency means that the claimed \$35.8 unexplained breach for the 2005/06 pricing year according to the Commission's methodology would appear to be over-stated by \$17.16 million.

Notional embedding

The adjustment made to the 2004/05 notional revenue to account for new notional embedding contracts of \$72,374 was based on the estimated disclosed revenue in Transpower's second compliance statement. The 2004/05 notional embedding revenue was revised from \$2,165,344 to \$2,202,844 due the actual amounts being available at the time when Transpower prepared its third compliance statement. The notional embedding adjustment has not been revised in the Commission report.

Adjustments to Reflect Adjustments made to 2003/04 notional revenue

The adjustment of \$1,004,092 to reflect adjustments made to 2003/04 notional revenue is composed of the following:

Breach in 2003/04 relative to 2002/04	\$101,959
First installment of the SOSPA contract	\$860,018
2003/04 Notional Embedding adjustment	\$42,116
	= \$1,004,092

(a) Breach in 2003/04 relative to 2002/04

Transpower notes that the Commission's volume adjustment approach does not appear to be applied consistently. The derivation of the \$101,959 breach for 2003/04 pricing year overlooks the fact that, in accordance with the Commission's volume approach, a volume adjustment of \$8.40 million applies to the 2003/04 notional revenue. As a result the breach in that year is eliminated.

(b) First installment of the SOSPA contract

The rationale for removing the first installment of the SOSPA contract can be found in the NZIER report where it is stated that the first installment for the new

System Operator contract fell after the assessment period of 6 September 2003¹¹⁹ and therefore should not be counted in the first compliance statement.

In its first revised compliance statement, and for subsequent statements, Transpower had taken the view that it would be reporting its notional revenue for transmission asset owner services using the “transmission pricing” year (i.e. from 1 April). This approach was discussed in detail with the Commission. Accordingly, for consistency, Transpower reported all income, including system operator charges, on the same basis (notwithstanding the fact that the contractual arrangements for system operator charges is not subject to the same timeframes as transmission asset owner charges).

Transpower is aware that the Commission and NZIER have questioned this approach. Transpower maintains that its approach was a valid and reasonable interpretation in the circumstances.

(c) 2003/04 Notional Embedding adjustment

Transpower considers that the Commission’s treatment of the notional embedding adjustments of \$42,116 is appropriate.

Electricity Commission Levy

Transpower paid \$3.18 million in Electricity Commission levy in the 2004/05 pricing year. Although the first Gazette Notice did not define the Electricity Commission levy as a pass-through cost, Transpower believes that for the purposes of “adjusted” comparisons there is some merit in including the effect of this retrospectively for illustrative purposes at least.

TTUs

As discussed in the body of Transpower’s submission, Transpower does not accept the Commission’s view that the TTUs are not a mitigating factor in explaining its breaches. The Commission’s decision is made on the basis that

¹¹⁹ NZIER, Transpower Post-Breach Inquiry, Further Analysis of Breaches, Report to the Commerce Commission, 28th November 2005, p.4.

the TTUs are projects which are accommodated by the “quantity” component of the price threshold.

Transpower does not agree with this interpretation and believes that TTUs should be taken into consideration in the calculation of Transpower’s adjusted breach (see Table C below).

Transpower’s presentation of the Revised Breaches after Volume Adjustments (Table C)

In Table C Transpower sets out an alternative presentation of volume adjusted breaches for 2004/05 and 2005/06 compared with Transpower’s reported breaches, but using the alternative, and in Transpower’s view, more consistent approaches, described above (Transpower’s revisions underlined).

In particular, in Table C, Transpower has:

- used updated notional embedding revenue for 2004/05 based on actual amounts;
- adopted the approach to system operator revenues adopted in its reported compliance statements;
- removed the impact of the EC levy from its 2004/05 notional revenue to allow a better comparison with the 2005/06 notional revenue;
- taken into consideration the TTUs.

Conclusion

After making the revised adjustments discussed above:

- Transpower’s volume adjusted breach for the 2004/05 pricing year has been revised from \$14.28 million to \$13.38 million or if the adjustment for the EC levies is made revised further to \$10.21 million.
- The volume adjusted breach for the 2005/06 pricing year has been revised from \$35.81 million to \$17.79 million or if the adjustment for the TTUs is made revised further to \$4.82 million.

\$m	2003/04	2004/05	2005/06	Explanation of revisions
Recalculated Breach using Transpower's Revised Data allowing for EV adj. in 04/05 from Table 1 of the Report	\$1.05	\$26.76	\$43.22	
Notional Embedding Adjustment	-0.04	<u>-\$0.11</u>	<u>-\$0.28</u>	04/05 figure changed due to revisions in 3 rd TCS
Transitional Rebates		<u>-\$0.97</u>	<u>-\$0.97</u>	
Adjustments to Reflect Adjustments Made to 2003/04 Notional Revenue (2003/04 notional embedding adjustment)	<u>+\$0.04</u>	<u>+\$0.04</u>	<u>+\$0.04</u>	The 1 March 04 SOSPA revenue remains in the 03/04 pricing year. After volume adjustment for 03/04 notional revenue, there is no breach. The threshold is adjusted upwards to account for the adjustment made to the notional revenue in 2003/04 due to notional embedding charges.
Revised Breach Without Volume Adjustment	<u>=\$1.05</u>	<u>=\$25.72</u>	<u>=\$42.02</u>	
Adjustment to Threshold due to Volume Adjustment – AMD/AMI		+\$8.40	+\$8.40	The adjustment excludes estimated \$0.1 m breach by the Commission for 2003/04
Volume Adjustments-AMD/AMI	<u>-\$8.40</u>	<u>-\$20.73</u>	<u>-\$32.63</u>	
Revised Breach inc Potential Vol. Adjustments AMD/AMI	<u>=-\$7.35</u>	<u>=\$13.38</u>	<u>=\$17.79</u>	
Further Adjustments:				
TTUs			<u>-\$12.97</u>	Based on increased interconnection rate of \$1.95kW ¹²⁰ applied to 05/06 AMD.
EC Levy		<u>-\$3.18</u>		EC levy not defined as pass-through costs in the 1 st Notice but should be removed to be consistent with the 2 nd Notice.
Total Revised Breach after Adjustments	<u>=-\$7.35</u>	<u>=\$10.21</u>	<u>=\$4.82</u>	

Table C: Revised Volume Adjustments Relative to Transpower's Reported Breaches

¹²⁰ Letter from Ralph Craven to Roy Hemmingway, 1 July 2005, Appendix Tactical Transmission Upgrade Projects: Detailed Response to the Commission's Questions, pp.6-7.

Appendix 3

Comments on the Nov 2005 NZIER Report to the Commission

This Appendix provides a summary of comments on the NZIER report.

Issue	NZIER Report	Transpower's Response
Transitional rebates	Transitional Rebates are taken out of the customers' account, instead of the shareholders' account as originally intended by the Transpower Board.	Transpower agrees and admits that this was an unintentional oversight.
	Transpower has not shown any evidence that adjustments have been made to the shareholders' or customer EV account.	Transpower strongly disagrees. The error has been rectified as shown in Transpower's board paper dated 14 October 2005, which was provided part of the Commission's post-breach inquiry.
Volume Adjustment	Volume adjusted interconnection and HVDC revenues	<p>Transpower notes that NZIER made volume adjustments to interconnection and HVDC charges only. The rationale for this decision is questionable for the following reasons:</p> <ul style="list-style-type: none"> ▪ The nature of the transmission service is complex and cannot be fully described by adopting any one quantity measure as a proxy for the service being provided; ▪ Interconnection and HVDC charges, although allocated on relative peak demand of electricity, are as close as is commercially practicable to fixed charges; ▪ The NZIER approach would imply that only interconnection and HVDC assets are subject to "volume" growth, with no similar adjustment in respect of connection charges. Upgrading or expansion of interconnection assets must over time occur in conjunction with the upgrading of connection assets. As a result, Transpower questions why the NZIER has not volume adjusted the connection charge element of transmission asset owner services.