

COMMERCE COMMISSION
Regulation of Electricity Lines Businesses
Targeted Control Regime
Intention to Declare Control
Unison Networks Limited

9 September 2005

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EXECUTIVE SUMMARY

The Commerce Commission (Commission) has published in the *New Zealand Gazette* its intention to make a declaration of control under Part 4A of the Commerce Act 1986 (the Act), in respect of electricity distribution services supplied by Unison Networks Limited (Unison). Unison is a distribution business that supplies distribution services to electricity consumers in the Hawke's Bay, Rotorua and Taupo regions.

This paper sets out the Commission's preliminary conclusions based on the investigations and analysis undertaken to date of Unison's recent and planned performance and behaviour, which form the basis of the Commission's reasons for forming an intention to declare control. Interested persons are invited to give their views on this intention.

The Targeted Control Regime for Electricity Lines Businesses

Part 4A of the Act came into effect on 8 August 2001 and, among other things, requires the Commission to implement a *targeted control regime* for the regulation of large electricity lines businesses (lines businesses)—namely the 28 distribution businesses (one of which is Unison) and the state-owned transmission company, Transpower New Zealand Limited.

Purpose and elements of the targeted control regime

The purpose of the targeted control regime (Purpose Statement) 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.

The targeted control regime comprises a number of distinct elements: setting thresholds; assessment and identification; post-breach inquiries (and administrative settlements); and control.

Setting thresholds

The Commission must set and publish “thresholds” for lines business performance, following consultation with participants in the electricity distribution and transmission markets and with consumers. The thresholds are a screening mechanism for the Commission to identify lines businesses whose performance *may* warrant further examination, and if necessary, control of their prices, revenues and/or service quality standards. Control is *targeted*, because a lines business may only be controlled by the Commission if it has breached a threshold.

The Commission set two *initial thresholds* on 6 June 2003: a CPI-X price path threshold, and a quality threshold. The CPI is the consumer price index, and the ‘X’ factor represents the expected annual reduction in lines business average prices (i.e., distribution charges) in real terms. The X factor in the initial price path threshold was effectively the CPI for all businesses.

The Commission reset the thresholds for distribution businesses from 1 April 2004 for a five-year regulatory period. The *reset thresholds* are of the same form as the initial thresholds. However, for the price path threshold, new X factors apply, with businesses assigned to four groups (i.e., X = -1%, 0%, 1% or 2%) based on their relative productivity and profitability.

Assessment and identification

The Commission must assess lines businesses against the thresholds it has set, and must identify any lines businesses that breach those thresholds. Where the Commission has identified a breach, it may request further information from the lines business concerned to also identify the cause of the breach, as well as any mitigating factors pertaining to the breach. This additional information may be sufficient for the Commission to determine that taking further action would not be consistent with the long-term interests of consumers.

Post-breach inquiries

Following the identification of a breach, the Commission must determine whether to declare all or any of the services supplied by all or any of the identified lines businesses to be controlled. The Commission terms this determination process a “post-breach inquiry”.

Before making any declaration of control, the Commission must publish its intention to make a declaration, invite interested persons to give their views on the intention, provide a reasonable opportunity to interested persons to give those views, and have regard to those views. The Commission considers it convenient to divide post-breach inquiries into two stages—with *Stage 1* comprising investigations and analysis prior to the Commission forming an intention to declare control, and *Stage 2* comprising further investigations and analysis subsequent to the Commission publishing its intention to declare control.

Administrative settlements

The Commission has indicated that it may be possible for a breach to be resolved by an “administrative settlement” between the Commission and the business concerned. Because such a settlement would involve the business voluntarily reaching an agreement with the Commission, a better outcome may be achievable than would be the case through control.

Administrative settlements could be agreed during either a Stage 1 or Stage 2 post-breach inquiry process but, in the case of the latter, the Commission may only be inclined to do so after formally considering the views of interested parties.

Control

Once the Commission has made a declaration of control, the Commission must apply the regime under Part V of the Act for authorising the prices, revenues and/or quality standards of the controlled services supplied by a lines business subject to control. Instead of making an authorisation, the Commission may obtain or accept a written undertaking from the lines business.

Because there is a further consultative process under Part V, the Commission considers that, in deciding whether or not to declare control, it should not pre-determine the form and nature of control. Therefore, post-breach inquiries under Part 4A are limited to assessing whether control *should* be imposed and do not involve determining *how* any prices, revenue and/or quality standards might be authorised, following a declaration of control.

Background to the Intention to Declare Control

Unison Networks Limited

Unison is the fourth largest distribution business in New Zealand, measured by system length, consumer connections, or regulatory asset value. The company is 100% owned by the Hawke's Bay Power Consumers' Trust (HBPCT). The HBPCT is an elected body which acts on behalf of the consumer owners of Unison, namely those consumers connected to Unison's network in the Hawke's Bay region. Unison also owns and operates distribution networks in the Rotorua and Taupo regions, which were acquired in November 2002 as part of the sale of a number of networks that had been previously owned by UnitedNetworks Limited.

Unison's past and planned pricing behaviour

To comply with the initial price path threshold, Unison—like all other lines businesses—was required to ensure that, at the first and second assessment dates (i.e., 6 September 2003 and 31 March 2004), its average prices for distribution services were at or below levels in August 2001. Unison was subsequently assigned an X factor of 0%, meaning that—had it not already increased prices in 2002—the business could have increased its average prices by the CPI for the five years from 1 April 2004, without breaching the reset price path threshold.

The Commission has identified Unison as having breached the price path threshold:

- at the first assessment date, primarily as a result of price increases on 1 April 2002 by around 10% on average to Hawke's Bay electricity consumers;
- at the second assessment date, primarily as a result of price increases on 1 March 2004 by about 6% on average for Rotorua and Taupo consumers, and by about 22% on average for Hawke's Bay consumers; and
- at 31 March 2005, again primarily due to the March 2004 price increases.

Information obtained from Unison following its breaches of the initial thresholds indicated that the company was targeting a rate of return of 9.42%, based on its view of its post-tax nominal weighted average cost of capital (WACC)—well in excess of the Commission's indicative range for the WACC. The information also suggested that Unison planned to reach this target by achieving revenue increases of 11.3%, 9.1%, 6.8%, 4.5% and 2.3%, respectively, over the next five years. In addition to its high target for the rate of return, Unison did not deduct revaluation gains from its planned line charge revenue, as is required for consistency where the return component of revenue is derived by applying a nominal WACC to a revalued asset base.

As a result of reviewing this information concerning Unison's past and planned pricing behaviour, it was not evident to the Commission that taking no further action would be consistent with the long-term interests of consumers. Consequently, the Commission decided to initiate a post-breach inquiry into Unison's performance.

Unison's service quality

Unison has also been identified as having breached the quality threshold at both 31 March 2004 and 2005. However, to date, the Commission has not investigated these breaches in any depth. The Commission intends investigating Unison's quality further during Stage 2 of the post-breach inquiry.

Unison's disaggregated network performance

The Commission does not have a concern with a distribution business earning a reasonable return on behalf of its consumer owners, but the Commission would be concerned if pricing and/or investment decisions were weighted inappropriately in favour of those owners, to the detriment of the other consumers supplied by the business. Given that the beneficiaries of the HBPCT are solely Unison's Hawke's Bay consumers, and not those connected to the Rotorua and Taupo networks, the Commission required Unison to provide disaggregated data on its three networks, as part of the information sought for the Stage 1 post-breach inquiry.

Unison's administrative settlement offer

In early December 2004, the Commission wrote to Unison stating that, on the basis of the information currently available, and having taken into account the Purpose Statement, the Commission had formed the preliminary view that there were sufficient grounds to proceed to an intention to declare control. The Commission also provided the company with a further opportunity to provide additional information relevant to the Commission's decision.

In response, Unison informed the Commission that it intended making an administrative settlement offer to the Commission by the end of February 2005, and that it also intended postponing price increases planned for 1 April 2005. Consequently, the Commission decided to defer its decision on whether to publish an intention to declare control, until it had had an opportunity to evaluate whether the settlement offer might provide a better long-term outcome for Unison's consumers than control.

Intention to declare control

Having reviewed the settlement offer and the other information provided by Unison, the Commission has now formed an intention to make a declaration of control. The analytical framework and approach that the Commission has used in reaching this decision is described below, along with a summary of the Commission's preliminary analysis of Unison's recent and planned performance.

Analytical Framework and Approach

In general, the Commission will form an intention to declare control if it is satisfied that, on the basis of available evidence and analysis, the forward-looking long-term benefits of control to consumers would exceed the costs. The Commission is also guided by the specific outcomes outlined in the Purpose Statement, the prioritisation criteria specific to the targeted control regime, and its standard enforcement criteria of detriment, conduct and public interest.

Efficient prices and net benefits to consumers

In determining the potential net benefits of control to consumers, the Commission considers it should judge the performance of a lines business that has breached the thresholds against an "efficient prices" standard—namely, prices that would be achieved in markets where there is workable or effective competition. Control is generally intended to realign prices to these more efficient levels, which over time will:

- allow for "normal" returns to be earned, calculated on an appropriately determined asset base and risk-adjusted rate of return, and covering only efficient operating costs;
- encourage dynamic efficiency, by sending the appropriate signals for investment; and

- aim for allocatively efficient price levels, commensurate with the level of service quality consumers demand and based on productively and dynamically efficient costs.

The potential net benefits of control to consumers over time are the benefits of control less the direct and indirect costs of control. In the Commission’s view, potential benefits arise from:

- transfers to consumers, resulting from any excessive profits being reduced by control;
- the tax effect associated with reducing excessive profits; and
- gains in allocative, productive or dynamic efficiency.

The direct costs of control include the compliance costs of the regulated lines business and other market participants involved in the regulatory process, plus the incremental administrative costs of the Commission. Indirect costs of control, which may arise if control were to lead to some forms of inefficient behaviour, are more difficult to quantify.

The “counterfactual” and the “factual”

Determining the benefits of control to consumers involves comparing the prices (and/or quality) of services that would apply in the absence of control (the “*counterfactual*”) with those that might apply if control realigned prices to more efficient levels (the “*factual*”). Revenue in the counterfactual, over and above that allowed in the factual, is considered by the Commission to be “excess revenue”. Excess revenue comprises excess returns plus the reduction in tax payable associated with reducing those excess returns.

Prices under the counterfactual would be set in accordance with the current policies and plans of the lines business subject to the inquiry, and relate to revenue received from distribution charges and capital contributions (i.e., cash contributions or vested assets). Prices under the factual would generally be at the level deemed efficient for a given level of service quality.

The Commission is mindful, however, not to incur unnecessary administrative and compliance costs by undertaking analysis that might not be particularly material to the decision required at a particular stage of a post-breach inquiry. For instance, the Commission may—as has been the case for the Unison inquiry—be able to form an intention to declare control on the basis of factual revenues derived from the business’s own cost projections rather than the Commission’s forecasts of efficient costs. The Commission considers it likely that efficient costs will be lower than the projections provided by a business facing the prospect of control. Therefore, using the business’s cost projections will generally be conservative in favour of that business. Similarly, there may be no need to estimate the efficiency gains from control, if the benefits from reducing excessive profits are sufficiently high to form an intention to declare control—which has also been the case for Unison.

Building blocks analysis

For the Unison post-breach inquiry, the Commission has used a “building blocks” analysis to estimate prices under the factual over the next five years. The analysis “builds” the factual revenue allowed to be earned from regulated distribution services by combining the following building blocks:

- the *return on capital*, comprising the *post-tax nominal WACC* multiplied by the value of the *regulatory asset base* used to provide lines services (where system fixed assets are valued applying the optimised deprival valuation methodology, and indexed to the CPI);

- the *depreciation* of the regulatory asset base (i.e., the return of capital);
- *operating costs*;
- the *regulatory tax allowance*, comprising tax payable (after adjusting for any tax losses than can be utilised in the regulated business, or in the wider tax group) plus the interest tax shield (i.e., the tax deduction for interest on debt), which is a necessary adjustment required for consistency with the use of a post-tax WACC that includes an interest tax deduction term;
- *less the revaluation gains*, which is a necessary adjustment required for consistency with the application of a nominal WACC to an indexed regulatory asset base.

Unison's Recent Performance

The Commission has analysed Unison's overall performance for 2003/04 and 2004/05—the two financial years during which the company has breached the price path threshold—to determine whether its recent price increases were justified.

Unison's return on investment

The Commission has assessed Unison's regulatory return on investment (ROI) as 10.6% and 12.7%, for the 2003/04 and 2004/05 years respectively. These ROIs are significantly higher than the Commission's mid-point estimate of the WACC for those two years, namely 6.8% and 6.95% respectively. Therefore, the Commission's preliminary view is that Unison is currently extracting excessive profits and the March 2004 price increases were not justified.

Relative performance of Hawke's Bay, and Rotorua/Taupo networks

The Commission also investigated Unison's disaggregated network performance for the 2003/04 year. The Commission found that while the returns received from Unison's consumer owners in Hawke's Bay were about 6.1% on average (prior to increasing prices to those consumers by 22% in March 2004), the returns received from the remaining consumers in Rotorua and Taupo averaged around 17.1% (prior to the March 2004 price increase of 6%).

Net Benefits of Control of Unison

The Commission has assessed Unison's excess revenues from 2006-2010 on the basis of two different scenarios that reflect information available about Unison's planned performance at two different times—before and after Unison's increased exposure to the threat of control (through the Commission signalling its preliminary views to Unison in December 2004).

Scenarios for the net benefits analysis

Scenario 1 was mainly sourced from information provided by Unison in explaining its breaches (March 2004) and in response to the Commission's initial information requests. In the Commission's view, the counterfactual for Scenario 1 is likely to be more indicative of Unison's future performance in the absence of control, as it reflects targets that were in the company's Statement of Corporate Intent prior to the initiation of the post-breach inquiry.

Scenario 2 was sourced primarily from information provided as part of Unison's administrative settlement offer (February 2005). The revenue path from the offer forms the

basis for the Scenario 2 counterfactual. The offer appears to have been influenced by the prospect of control, as it involves higher forecasts of costs and lower forecasts of revenue.

The factuials for Scenarios 1 and 2 differ, because the cost projections used in either case are those provided by Unison itself, consistent with its revenue projections used in the associated counterfactual. However, in both scenarios the factual revenue has been derived based on the Commission's current mid-point estimate for the WACC, which is 7.35%.

In the Commission's view, both factuials are likely to represent a higher level of revenue than would arise from efficient pricing, given the use of Unison's own forecasts. Furthermore, the Commission has found that both factuials provide for revenue greater than the revenue projections Unison used to justify its acquisition of the Rotorua and Taupo networks as a result of its due diligence review. This all suggests that the Commission's analysis is likely to understate the net benefits of control.

Net benefits analysis

The Commission has estimated the annual direct costs of control as being up to \$614,000 on average. Netting out the direct costs of control from the benefits due to the reduction of excess revenue, provides the following estimate of the net benefits of control from 2006-2010 on a present value basis. The annualised net benefits are also presented in the table below.

Present Value of Net Benefits of Control

Present Value	Excess Revenue (\$000s)	Direct Cost of Control (\$000s)	Net Benefits (\$000s)	Annuity (\$000s)
Scenario 1	92,465	2,494	89,971	22,148
Scenario 2	59,682	2,494	57,187	14,077

Disaggregated network analysis

The Commission has also carried out a disaggregated analysis for each of the Hawke's Bay, Rotorua and Taupo networks, consistent with the aggregate factual and counterfactual for Scenario 2 (i.e., the lower of Unison's two revenue projections). The estimated return on investment for each of the three networks is shown in the table below.

Estimated ROI for Hawke's Bay, Rotorua and Taupo Networks (Consistent with Scenario 2)

ROI	2005	2006	2007	2008	2009	2010
Taupo	21.79%	17.36%	16.24%	15.33%	15.12%	14.34%
Rotorua	16.38%	14.36%	13.36%	12.68%	12.38%	11.91%
Hawkes Bay	10.11%	8.25%	8.45%	8.48%	8.17%	7.64%

Note: 2005 values are based on Unison's *budgeted* costs and revenues for the year ending 31 March 2005

Sensitivity analyses

The impact of any indirect costs of control has been considered through a sensitivity analysis. Sensitivity analyses have also been undertaken with respect to variations in the WACC (from 6.25% to 8.45%) and to variations in the CPI (from 2% to 3%)—the CPI being a proxy for the asset revaluation index. For the disaggregated network analysis, the Commission also tested the sensitivity of the results to the CPI, and also to the allocation of indirect operating costs

between the Hawke's Bay, Rotorua and Taupo networks. In all cases, the Commission's estimate of the net benefits of control remains substantial.

Potential pricing impacts of control on line charges

Control would be intended to largely realign Unison's line charges toward efficient price levels, subject to any constraints on the company's ability to do so, consistent with the Purpose Statement. Based on the assumptions in Scenario 2, control could result in annual line charge savings for consumers in each of the three networks up to the levels shown in the table below.

Potential Annual Line Charge Savings to Consumers from Control of Unison

	2006	2007	2008	2009	2010
Taupo					
Average price per connection per annum	756	788	800	812	813
Price reduction due to control	321	306	293	303	289
% reduction	42%	39%	37%	37%	36%
Rotorua					
Average price per connection per annum	590	617	629	641	643
Price reduction due to control	193	181	173	175	169
% reduction	33%	29%	27%	27%	26%
Hawkes Bay					
Average price per connection per annum	567	593	605	616	618
Price reduction due to control	77	87	89	77	55
% reduction	14%	15%	15%	13%	9%

Intention to Declare Control

The Commission's preliminary view is that control of the distribution services supplied by Unison would be consistent with the Purpose Statement. In particular, the Commission considers, on the basis of its analysis to date, that there would be long-term benefits to consumers following the imposition of control, primarily resulting from prices lower than they would be without control.

The Commission also considers that, on the basis of the evidence currently before it, Unison is extracting excessive profits from its consumers of distribution services and that, without control, Unison would continue to do so in future. Control would therefore limit Unison's ability to extract excessive profits going forward.

Furthermore, there is evidence that the returns being earned from consumers that are not beneficiaries of the Hawke's Bay Power Consumers' Trust are significantly higher than those taken from Unison's consumer owners in Hawke's Bay. While the greater part of the benefits of control would be likely to accrue to Unison's Rotorua and Taupo consumers, control would nevertheless be likely to be favourable to all consumers, including those in Hawke's Bay.

Next steps

After having regard to the views of interested persons, the Commission will decide whether to proceed with making a declaration of control with respect to the distribution services supplied by Unison. (A timetable for the next steps is provided in Table 37 on page 82 of this paper). During this consultation period it is still possible that the Commission and Unison may agree to the terms of an administrative settlement, although the Commission anticipates that it would only do so after again formally considering the views of other interested parties.

INTRODUCTION

Purpose and Scope

- 1 The Commerce Commission (Commission) has published in the *New Zealand Gazette* (*Gazette*) its intention to make a declaration of control under Part 4A of the Commerce Act 1986 (the Act), in respect of services supplied by Unison Networks Limited (Unison).¹ Unison is a distribution business that supplies electricity distribution services to consumers in the Hawke’s Bay, Rotorua and Taupo regions.
- 2 The purpose of this paper is to invite interested persons to give their views on the Commission’s intention to make a control declaration relating to Unison, as is required under s 57I(1) of the Act. In order to provide interested persons with a reasonable opportunity to give those views, the paper outlines the process by which and the reasons why the Commission has formed such an intention.
- 3 Part 4A of the Act came into effect on 8 August 2001 and, among other things, requires the Commerce Commission (Commission) to implement a *targeted control regime* for the regulation of large electricity lines businesses (lines businesses)—namely the 28 distribution businesses (one of which is Unison) and the state-owned transmission company, Transpower New Zealand Limited (Transpower).
- 4 Under subpart 1 of Part 4A (ss 57D to 57N of the Act), the Commission must set thresholds for the declaration of control of goods or services provided by lines businesses. The thresholds are a screening mechanism for the Commission to identify lines businesses whose performance may warrant further examination, and if necessary, control of their prices, revenues and/or service quality.
- 5 The Commission must assess lines businesses against the thresholds it has set, identify any lines business that breaches the thresholds, and determine whether or not to declare control in relation to the goods or services supplied by an identified lines business, taking into account the purpose statement contained in s 57E of the Act. In determining whether or not to declare control in relation to any lines business breaching the thresholds, the Commission may conduct a “post-breach inquiry”.
- 6 Unison has breached the thresholds at the first, second and third assessment dates (i.e., 6 September 2003, 31 March 2004 and 31 March 2005 respectively). The Commission’s decision to publish an intention to declare control, pursuant to s 57I of the Act, follows investigations and analysis undertaken by the Commission as part of a post-breach inquiry into aspects of Unison’s breaches, and into Unison’s possible performance and behaviour over the next few years in the absence of control.
- 7 This paper is structured as is shown on the next page.

¹ *Commerce Act (Intention to Declare Control: Unison Networks Limited) Notice 2005, New Zealand Gazette*, Issue No. 156, 9 September 2005, pp 3897-3900.

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Statutory Framework and Process

Targeted control regime

- 8 The targeted control regime for lines businesses is outlined in subpart 1 of Part 4A of the Act. The purpose statement of the targeted control regime (Purpose Statement), contained in s 57E of the Act, 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.

- 9 The targeted control regime comprises a number of distinct elements as follows:
- *setting thresholds*, in which the Commission must set and publish “thresholds” for lines business performance, following consultation as to possible thresholds with participants in the electricity distribution and transmission markets and with consumers;
 - *assessment and identification*, in which the Commission must assess lines businesses against the thresholds it has set, and must identify any lines businesses that breach those thresholds;
 - *post-breach inquiry*, in which the Commission must determine whether to declare all or any of the goods or services supplied by all or any of the identified lines businesses to be controlled; and
 - *control*, in which the Commission applies the regime under Part V of the Act for authorising the prices, revenues and/or quality of the controlled goods or services supplied by a lines business for which a declaration of control has been made by the Commission.
- 10 Control is *targeted*, in the sense that it is not universal, by virtue of the processes set out in subpart 1 of Part 4A. None of the lines businesses is to be subject to control of prices, revenues or service quality by default. A business may only be controlled by the Commission if it has breached a threshold, and after the Commission has followed the process outlined in s 57I of the Act.

Initial thresholds

- 11 After consulting with interested parties, as is required under s 57G of the Act, the Commission set two *initial thresholds* on 6 June 2003: a CPI-X price path threshold; and a quality threshold. The CPI is the consumer price index, and the ‘X’ factor represents the expected annual reduction in lines business average prices (i.e., line charges), net of certain allowable pass-through costs—most notably, transmission charges.
- 12 The price path threshold for a distribution business therefore acts only on the distribution component of the line charges, and not the combined price for all lines services, including transmission services. This is because the transmission charges are themselves subject to the distinct price path threshold applicable to Transpower.
- 13 The assessment criteria set in relation to the initial price path threshold were set to be generally consistent with a CPI-X price path, in which distribution prices at the end of each assessment period were not to be greater, in nominal terms, than the distribution prices at the start of that period.
- 14 The quality threshold has two sets of criteria:
- *reliability criteria*, requiring no material deterioration in reliability, measured in terms of SAIDI and SAIFI;² and

² SAIDI is the system average interruption duration index, which measures the annual average length of time for a power outage, measured in minutes of lost electricity supply per consumer. SAIFI is the system average interruption frequency index, which measures the average number of power outages experienced by a consumer each year.

- *consumer engagement (or customer communication) criteria*, requiring meaningful engagement with consumers to determine their demand for service quality.
- 15 The Commission has indicated that lines businesses which have breached the reliability criteria of the quality threshold may offer some explanation or background information, suggesting, for example, that the breach was attributable to:
- a rare but high impact event (i.e., an “extreme event”), such as a very severe storm;
 - normal variation in the reliability performance measure; or
 - increased frequency and/or duration of planned outages associated with major development or refurbishment of the network.
- 16 These thresholds, which applied to distribution businesses until 31 March 2004, were set by a notice in the *Gazette*,³ and explained in a decisions paper published on the same day.⁴ All distribution businesses were assessed against the initial price path threshold as at 6 September 2003 (first assessment date) and against both the price path and quality thresholds as at 31 March 2004 (second assessment date).

Reset thresholds

- 17 After further consultation with interested parties, the Commission reset the thresholds for distribution businesses from 1 April 2004 for a five-year regulatory period. The *reset thresholds* are of the same form as the thresholds set by the Commission on 6 June 2003. However, for the price path threshold, new X factors apply, with businesses assigned to four groups (i.e., X = -1%, 0%, 1%, or 2%) based on their relative productivity and relative profitability. Any distribution business whose average distribution price changes at an annual rate exceeding the change in the CPI, less than the annual rate of X percent set by the Commission for that business, will breach the price path threshold.
- 18 The reset thresholds for distribution businesses were set by a notice in the *Gazette*⁵ and explained in an accompanying decisions paper.⁶ All distribution businesses were required to submit threshold compliance statements reporting their self-assessments against both the reset price path threshold and the quality threshold as at 31 March 2005 (third assessment date). At the third assessment date most businesses—including Unison—did not provide their self-assessments against the customer communication criteria of the quality threshold, given that compliance against these criteria are only required to be assessed once every two years.

³ Commerce Act (*Electricity Lines Thresholds*) Notice 2003, Supplement to *New Zealand Gazette*, Issue No. 62, 6 June 2003.

⁴ Commerce Commission, *Regulation of Electricity Lines Businesses, Targeted Control Regime: Thresholds Decisions*, 6 June 2003.

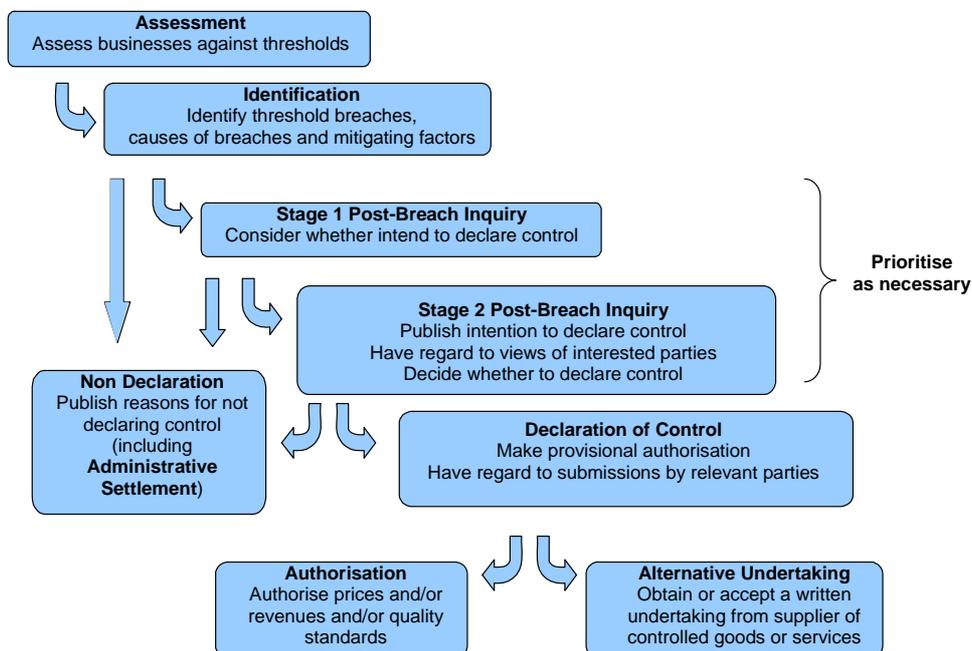
⁵ Commerce Act (*Electricity Distribution Thresholds*) Notice 2004, Supplement to *New Zealand Gazette*, Issue No. 37, 31 March 2004.

⁶ Commerce Commission, *Regulation of Electricity Lines Businesses, Targeted Control Regime: Thresholds Decisions (Regulatory Period Beginning 2004)*, 1 April 2004.

Assessment and Inquiry Guidelines

- 19 In October 2004 the Commission published its Assessment and Inquiry Guidelines (the Guidelines) which outline the broad framework that the Commission intends to use in deciding whether or not to impose control on a lines business that has breached one or more of the thresholds.⁷ The Guidelines describe the statutory framework and outline both the statutory and discretionary process steps the Commission proposes following in the assessment, identification and post-breach inquiry elements of the targeted control regime.
- 20 These processes are illustrated in Figure 1, in which the various statutory and discretionary process steps are grouped and labelled.

Figure 1: Targeted Control Process Steps



Assessment and identification

- 21 Before determining whether to declare control in relation to any lines business, ss 57H(a) and 57H(b) of the Act require that the Commission must:
- assess lines businesses against the thresholds set under s 57G; and
 - identify any lines business that breaches the thresholds.
- 22 Consequently, each lines business is annually required to provide the Commission with a threshold compliance statement in accordance with the notice in the *Gazette* which specifies the threshold assessment criteria. Each compliance statement must provide a

⁷ Commerce Commission, *Regulation of Electricity Lines Businesses, Targeted Control Regime, Assessment and Inquiry Guidelines*, 19 October 2004. The Guidelines were initially released in draft form as Commerce Commission, *Draft Assessment and Inquiry Guidelines*, 7 August 2003, and were finalised in October 2004 following consultation with interested parties.

self-assessment, with sufficient supporting evidence, of whether or not the lines business complies with the thresholds that the Commission has set.

- 23 Where the Commission has identified a breach, it may request further information from the lines business concerned to also identify the cause of the breach, as well as any mitigating factors pertaining to the breach. This additional information may be sufficient for the Commission to determine that taking further action would not be consistent with the long-term interests of consumers.

Post-breach inquiries

- 24 Under s 57H(c) of the Act, the Commission must determine whether or not to declare all or any of the goods or services supplied by all or any of the identified lines businesses to be controlled, taking into account the purpose of subpart 1 of Part 4A. The Commission terms this determination process a “post-breach inquiry”.
- 25 In addition, s 57I(1) states that, before making any declaration of control under s 57F, the Commission must:
- publish its intention to make a declaration and invite interested persons to give their views on the matter;
 - give a reasonable opportunity to interested persons to give those views; and
 - have regard to those views.
- 26 The Commission therefore has considered it convenient to divide post-breach inquiries into two-stages:
- **Stage 1** comprises investigations and analysis prior to the Commission forming an intention to declare control; and
 - **Stage 2** comprises further investigations and analysis subsequent to the Commission publishing its intention to declare control (during which the Commission must invite and consider the views of interested persons).
- 27 This paper sets out the Commission’s preliminary conclusions based on the investigations and analysis undertaken to date of Unison’s recent and planned performance and behaviour (i.e., the Stage 1 post-breach inquiry). These conclusions form the basis of the Commission’s reasons for deciding to publish an intention to declare control of Unison, as presented in this paper. The publication of the intention signals the beginning of Stage 2 of the post-breach inquiry into Unison.

Control

- 28 A declaration of control under subpart 1 of Part 4A means (as with a declaration of control by Order in Council under Part IV of the Act) that a lines business may not supply the controlled services unless an authorisation or an undertaking has come into effect in respect of those services.
- 29 Section 70 of the Act provides for the Commission to make an authorisation in respect of all or any component of the prices, revenues or quality standards that apply in respect of controlled services, using whatever approach it considers appropriate (having regard to the Purpose Statement). Section 71 provides for the Commission to make a

provisional authorisation pending the making of a final authorisation. Instead of making an authorisation, the Commission may obtain or accept a written undertaking from the lines business subject to control.

- 30 The authorisation process under Part V is, like the declaration of control process under Part 4A, a consultative process. Before making a final authorisation, s 70B requires the Commission to have regard to submissions made to it by the lines business concerned and the consumers of the controlled services. Under s 73, the Commission has the discretion to hold a conference as part of this process and it may allow other interested parties to be involved in the consultation.

The relationship between post-breach inquiries and control

- 31 The fact that there is a further consultative process under Part V has implications for the Commission's process under Part 4A. The Commission's view is that, in deciding whether or not to declare control, it should not pre-determine the form and nature of control. Post-breach inquiries under Part 4A are therefore limited to assessing whether control should be imposed and do not involve determining the specifics of any authorised prices, revenue and/or quality standards following a declaration of control.
- 32 However, in order to calculate the likely costs of control—as is required in forming an intention to declare control—the Commission must select a form of control for that purpose, but only to the extent that it is necessary for the Commission to assess whether control would be to the long-term benefit of consumers.
- 33 Any hypothetical form of control—and any prices, revenues and/or quality standards considered during the entire declaration of control process—will accordingly be preliminary and will not pre-empt any decision the Commission may be required to make in future regarding control, should that be necessary under Part V.⁸

Administrative settlements

- 34 The Commission has indicated that it may be possible for a breach to be resolved by an “administrative settlement” between the Commission and the business concerned. Because such a settlement would involve the business voluntarily reaching an agreement with the Commission on an appropriate course of action, a better outcome may be achievable than would be the case through control. An administrative settlement option is a well-established way of resolving Commission investigations in relation to Parts II and III of the Act and the Fair Trading Act 1986.
- 35 Administrative settlements could be agreed during either a Stage 1 or Stage 2 post-breach inquiry process, but, in the case of the latter, the Commission has indicated that it may only be inclined to do so after formally considering the views of interested parties. It should be noted that the Commission would continue with its inquiry to determine whether or not to declare control alongside any negotiations in respect of a proposed administrative settlement.

⁸ This relationship between the Commission's Part 4A and Part V processes is conceptually equivalent to the relationship between Part IV and Part V, as described in: Commerce Commission, *Gas Control Inquiry, Final Report*, 29 November 2004, pp 2.14-2.16.

- 36 If the Commission and a lines business agree on an administrative settlement, the Commission would cease its inquiry and publish its reasons for not making a control declaration. Those reasons would likely refer to the terms and conditions of the administrative settlement.
- 37 The Commission would seek to agree on a settlement which would resolve any issues for the remainder of the regulatory period and would not need to be revisited, based on information available at the time. However, the Commission would likely monitor compliance with the terms of the settlement annually, and also could consider whether any changed circumstances might warrant a review of the agreement.

BACKGROUND TO THE INTENTION TO DECLARE CONTROL

Unison Networks Limited

Overview of the company

- 38 Unison, formerly Hawke's Bay Network Limited, owns and operates the electricity distribution networks in the Hawke's Bay, Rotorua and Taupo regions. The Rotorua and Taupo networks were acquired from UnitedNetworks Limited (UNL) and Vector Limited on 1 November 2002 as part of the contemporaneous sale of a number of networks owned by UNL.⁹ Unison acquired the Rotorua and Hawke's Bay assets for \$196.2 million, which was \$89.9 million higher (i.e., 84.5% higher) than the value of those assets valued in accordance with New Zealand Financial Reporting Standard 3 (with the difference being cited by Unison as "goodwill arising on acquisition").
- 39 As a result of this acquisition, Unison is now the fourth largest distribution business in New Zealand, measured by regulatory asset value, system length or consumer connections. As at 31 March 2004, Unison disclosed it had 103,375 consumer connections (58,797 in the Hawke's Bay region; 31,072 in the Rotorua region; and 13,506 in the Taupo region), 9,200 km of lines and cables, and a supply area covering 11,500 square kilometres. The company remains, however, 100% owned by the Hawke's Bay Power Consumers' Trust (HBPCT). The HBPCT is an elected body which acts on behalf of the consumer owners of Unison, namely those consumers connected to Unison's network in the Hawke's Bay region. Consequently, consumers in the Rotorua and Taupo regions are not beneficiaries of any distributions that might be made to Unison's owners.
- 40 In addition to the networks that it owns, since 1 October 2002 Unison has managed the Central Hawke's Bay distribution network owned by Centralines Limited (Centralines) through a management service contract. The Commission's post-breach inquiry described in this paper relates solely to Unison's line business activities and not to Centralines or the management service contract.

Initial analysis of Unison

- 41 Under the initial CPI-X price path threshold (paragraphs 11-13), all distribution businesses were effectively set the same X factor. To comply with the price path threshold, businesses were required to ensure that, at the first and second assessment dates (i.e., 6 September 2003 and 31 March 2004 respectively), average prices were at or below levels in August 2001 (i.e., when Part 4A was enacted).
- 42 As part of resetting these initial thresholds, the Commission undertook a relative productivity and profitability analysis of all distribution businesses, allocating businesses to above-average, average and below-average groups for both productivity and profitability (paragraph 17). Unison was found to fall in the average productivity group based on its performance from 1 April 1999 to 31 March 2003. The business was also found to fall in the below-average profitability group, based on its performance

⁹ Unison acquired UNL's Rotorua and Taupo networks. Powerco acquired UNL's Thames Valley and Tauranga networks. Vector retained UNL's North Auckland and Wellington networks.

from 1 April 1999 to 31 March 2002—in other words, prior to the company’s acquisition of the Rotorua and Taupo networks.¹⁰

- 43 As a result, the Commission assigned Unison an overall X factor of 0%, meaning that, from 1 April 2004, Unison would have been able to increase its average prices by the CPI for the next five years without breaching the reset price path threshold, had it not already increased prices in 2002.

Unison’s Breaches of the Thresholds

Price path threshold

- 44 From reviewing Unison’s respective compliance statements, the Commission has identified Unison as having breached the price path threshold at the first, second and third assessment dates.
- 45 Unison breached the price path threshold at the first assessment date by \$1.8 million (or 4.0% of notional revenue),¹¹ primarily as a result of line charge increases to electricity consumers in the Hawke’s Bay region by around 10% from 1 April 2002.¹² (Price increases for the Rotorua and Taupo regions had also been implemented on the same date by the previous owner of the assets, UNL).¹³
- 46 Unison breached the price path threshold at the second assessment date as a result of further price increases on 1 March 2004.¹⁴ Line charges were targeted by Unison to increase by 6% on average for consumers in the Rotorua and Taupo regions, and by 22% on average in the Hawke’s Bay region (corresponding to increases on delivered electricity prices to end consumers of around 2% and 8% respectively).¹⁵ The magnitude of this second breach was \$11.0 million (or 23.9% of notional revenue).
- 47 Unison’s compliance statement for the third assessment date indicates that Unison breached the price path threshold by \$8.1 million (or 17.3% of notional revenue).¹⁶ As with the breach at the second assessment date, this breach reflects the price increases implemented on 1 March 2004, rather than any subsequent actions by Unison.

¹⁰ Given the disclosed information available at the time of resetting the thresholds it was not possible to estimate the UNL revenue for 2002/03 attributable to Unison, Vector and Powerco following their acquisition of various UNL networks. Refer: Commerce Commission, supra n 6, p 59; and Meyrick and Associates, *Regulation of Electricity Lines Businesses, Analysis of Lines Business Performance – 1996-2003*, 19 December 2003, p 61.

¹¹ Notional revenue is the annualised revenue that would result from applying each set of line charges to the same set of “base” quantities, net of pass-through costs (i.e., transmission charges, local authority rates and, from 1 April 2004, Electricity Commission levies). It does not reflect the actual revenue amount of the breach, but provides an approximation to the additional revenue above that permitted by the price path threshold that would be collected by the business if current charges for distribution services were sustained for a full year, in the absence of demand growth.

¹² Unison, *Threshold Compliance Statement for the First Assessment Date*, 17 October 2003.

¹³ Prior to the increases on 1 March 2004, prices in the Hawke’s Bay network have changed three times since 1993: an increase in 1996; a decrease and restructure on 1 July 2001; and the increase in 2002.

¹⁴ Unison, *Threshold Compliance Statement for the Second Assessment Date, 31 March 2004*, 20 May 2004.
¹⁵ Unison, *Pricing Review 2004, Pricing Impact Analysis*, Prepared for Board of Directors, December 2003, pp 1, 4 and 5.

¹⁶ Unison, *Threshold Compliance Statement for the Assessment Period Ending on 31 March 2005*, 20 May 2005.

Quality threshold

- 48 The Commission has identified Unison as having breached the SAIDI criterion of the quality threshold by 32% at the second assessment date. In addition, Unison breached both the SAIDI criterion (by 2%) and the SAIFI criterion (by 34%) at the third assessment date.
- 49 The Commission’s investigation of Unison has not, to date, examined Unison’s quality performance in any depth, because the Commission considers that there are sufficient grounds for forming an intention to declare control based on Unison’s recent and planned pricing behaviour alone.
- 50 However, as part of the Stage 2 post-breach inquiry, the Commission is likely to investigate Unison’s claims that its breaches of the SAIDI criterion of the quality threshold were caused by “extreme weather events” (paragraph 15).¹⁷ In addition, the Commission intends:
- investigating Unison’s explanations of what the company terms the “unusual events” that contributed to a “disappointing” SAIFI result at the third assessment date; and
 - reviewing Unison’s practices for engaging with end consumers.

Information initially provided by Unison

- 51 With its first compliance statement, Unison provided the Commission, in confidence, with a supporting paper to explain the breach. In that paper, Unison argued that it was not earning excessive profits, but in fact that its current prices were not sustainable in the medium to long term if Unison were to operate its distribution network for the long term benefit of consumers.
- 52 In Unison’s view, the 2002 price increases were the first step toward achieving an economically efficient level of return over time. As such, Unison claimed its behaviour was consistent with the Purpose Statement. Unison also pointed to significant reductions in operating costs and improvements in reliability achieved in its Hawke’s Bay network from 1998 to 2003.¹⁸ Unison had presented similar arguments during the consultation process on resetting the price path threshold.
- 53 In order to determine whether or not to declare control, the Commission requested Unison to explain:
- the extent to which, and the grounds upon which, Unison considered its recent and current price to be sub-optimal for long-term sustainability and economic efficiency;
 - the likely consequences for Unison if it had complied with the Commission’s price path threshold as at the first and second assessment dates;

¹⁷ The Commission is currently consulting on possible best practice criteria for assessing compliance with the consumer engagement criteria, and will shortly be consulting on criteria for determining whether various events affecting reliability can be considered “extreme”.

¹⁸ Unison, *Threshold Compliance Statement, Supporting Paper, For the First Assessment Date, 6 September 2003, Prepared for the Commerce Commission, October 2003*, pp ii, 1 and 11.

- the likely consequences if Unison were to comply with the Commission’s five-year price path threshold from 1 April 2004;¹⁹ and
- the five-year price path that Unison would propose to adopt in the absence of the Commission’s price path threshold, and the reasons for that path.

54 In addition, the Commission required Unison to provide information in support of its explanation, including Board documents, as well as similar material provided by Unison to the HBPCT. The Commission also requested all documentation supplied by Unison to its Board and to the HBPCT in relation to Unison’s decision to increase prices in all its network areas on 1 March 2004.

55 In response, Unison supplied the Commission with a Pricing Strategic Plan, Revenue Requirement Calculation, Tariff Methodology Tactical Paper, Pricing Impact Analysis, Communications Plan, Powerpoint presentations to the Board and the Trust, and extracts from Board minutes prepared over the period September to December 2003.

Evaluation of Unison’s Pricing Behaviour

Past pricing behaviour

56 In providing this material to the Commission, Unison stated that the HBPCT fully supported the 1 March 2004 price increases. The company also argued that the threshold regime introduced by the Commission would work most effectively if the “starting prices” of the price path threshold were closely aligned to “efficient costs”, or at least if prices were subject to a glide path towards efficient levels. Unison considered that it was disadvantaged by the use of a starting price for the threshold based on August 2001 price levels.

57 In considering this past pricing behaviour of Unison, the Commission noted that although Unison—as Hawke’s Bay Network—had reduced average line charges by around 10% in July 2001, this reduction was primarily implemented to pass on reductions in transmission charges. The 10% increase in line charges in April 2002 could only be considered a true reversal of the previous price decrease if increases in transmission charges were the reason for the increase, rather than an increase in the distribution component of the price, which is what the price path threshold acts on.

58 The Commission also noted that the line charges in Unison’s Rotorua and Taupo networks had been carried over from UNL’s previous tariff schedule for those networks, prior to Unison’s acquisition of those networks. Up until the March 2004 price increases, the Rotorua and Taupo regions contributed around 50% of Unison’s revenue, with those regions making up around 40% of total consumers. Material provided by Unison acknowledged that the Rotorua and Taupo regions had previously had tariffs set at commercial levels (because UNL was a listed company in which consumers were not the beneficial owners). Price increases in those regions were explained as reflecting recent investments made to improve security and quality of supply.²⁰

¹⁹ At the time of the request, the Commission’s 23 December 2003 decisions paper outlined the price path threshold to apply from 1 April 2004.

²⁰ Unison, *Pricing Strategic Plan*, 11 September 2003, pp 7 and 23.

- 59 During its reset of the thresholds, the Commission's relative profitability analysis of the distribution businesses had found UNL to be the second most profitable business, with a three-year residual rate of return to 31 March 2002 of 12.2%. While it was not clear to the Commission at that stage of its assessment whether UNL's Rotorua and Taupo networks generated returns above or below this average, the information available to the Commission suggested that the returns being earned warranted closer investigation.
- 60 The Commission also concluded that Unison was not necessarily "disadvantaged" as it had claimed by having a starting price for the price path threshold based on August 2001 levels (paragraph 56), given that:
- the threshold acts on average prices net of transmission charges; and
 - the threshold starting price was based on the prior UNL tariff schedule which continued to be applicable in Unison's Rotorua and Taupo networks after November 2002, and not just the Hawke's Bay Network's tariff schedule for Unison's Hawke's Bay consumers.
- 61 The Commission's subsequent analysis of Unison's average prices and returns for the 2003/04 financial year supports this conclusion. However, the main impact of the March 2004 price increases was not realised until the 2004/05 financial year. The analysis of Unison's performance in these two financial years is presented in a later section of this paper (paragraphs 200-223).

Planned pricing behaviour

- 62 The material provided by Unison also indicated that Unison's Statement of Corporate Intent for 2004/05 was to reflect a post-tax nominal weighted average cost of capital (WACC) target of 9.42%, to be achieved within a few years. It suggested that Unison planned to reach this target over a five-year period, and that this would require revenue increases of 11.3%, 9.1%, 6.8%, 4.5% and 2.3% respectively in each of those years.²¹
- 63 A rate of return target of 9.42% was well in excess of the Commission's indicative range for the WACC.²² Moreover, in making its revenue projections to reach this target, Unison did not deduct revaluation gains from targeted line charge revenue, as is required where revenue is derived by applying a nominal WACC to a revalued asset value. Ignoring the effect of revaluation gains substantially understates the effective income which the business earns and, conversely, overstates the allowable revenue from regulated activities (paragraph 181).

Post-Breach Inquiry into Unison's Performance

- 64 As a result of this evaluation of Unison's past and planned pricing behaviour, and the information available to the Commission at that stage, it was not evident that taking no further action would be consistent with the long-term interests of consumers. Consequently, the Commission decided to initiate a Stage 1 post-breach inquiry into Unison's performance. The Commission therefore sought a significant amount of additional information from Unison through a number of notices issued pursuant to s 98 of the Act.

²¹ Unison, *Revenue Requirement Calculation for Unison*, 17 November 2003.

²² Commerce Commission, *supra* n 7, August 2003, pp 38-39.

- 65 Part of the information sought from Unison was disaggregated data relating to each of the company's three networks, given that the beneficiaries of the HBPCT are solely Unison's Hawke's Bay consumers, and not those connected to the Rotorua and Taupo networks. The Commission does not have a concern with a distribution business earning a reasonable return on behalf of its consumer owners, but the Commission would be concerned if it were to find that pricing and/or investment decisions are weighted inappropriately in favour of those owners, to the detriment of the other consumers supplied by the business.
- 66 Responses from Unison were received over the period September 2004 to January 2005, and included, among other things:
- historical and forecast information relating to the financial and technical performance of Unison's monopoly lines business activities, including revenue, capital contributions, asset valuations, capital expenditure, direct and indirect costs, tax expenditure, depreciation, interest expenditure and system statistics;
 - associated business policies;
 - disaggregated information relating to the Hawke's Bay, Taupo and Rotorua networks;
 - background information relating to Unison's acquisition of UNL's Taupo and Rotorua assets (including due diligence material); and
 - customer surveys relating to network undergrounding.
- 67 Since providing this information Unison has disclosed its actual performance for the 2004/05 financial year in accordance with the Commission's information disclosure requirements for lines businesses.²³

Unison's Administrative Settlement Offer

- 68 In early December 2004, the Commission wrote to Unison stating that, on the basis of the information currently available, and having taken into account the Purpose Statement, the Commission had formed the preliminary view that there were sufficient grounds to proceed to an intention to declare control. At the same time, the Commission requested some more information from Unison, and provided the company with a further opportunity to provide additional information relevant to the Commission's decision whether to publish an intention to declare control.

²³ Commerce Commission, *Electricity Information Disclosure Requirements 2004*, 31 March 2004 (the Requirements) as amended on 7 May 2004. The Commission is currently undertaking a full consultative review of the Requirements, which at present largely replicate the now-revoked *Electricity (Information Disclosure) Regulations 1999* (the Regulations) administered by the Ministry of Economic Development. The discussion paper for the review—Commerce Commission, *Regulation of Electricity Lines Businesses, Review of the Information Disclosure Regime, Discussion Paper*, 24 December 2004—indicates that the Commission considers various aspects of the scope and specification of the currently disclosed data and indicators should be revised in light of the statutory purpose of Part 4A of the Act (given that the primary legislation for the Regulations was the Electricity Act 1992 rather than the Commerce Act). Hence, a number of the indicators used in this paper differ in respect of the specification of data and the calculations used, thereby reflecting the Commission's preliminary view on how these indicators might be determined in future. However, the way any indicators are determined in this paper should not be considered to pre-determine the Commission's final decisions for either information disclosure or this post-breach inquiry, given that both decisions are subject to further consultation with interested parties.

- 69 In response, Unison informed the Commission that it intended making an administrative settlement offer to the Commission by the end of February 2005 (paragraphs 34-37). Unison also advised that it intended suspending its planned price increases (scheduled for 1 April 2005), pending the outcome of the Commission's investigations.
- 70 The Commission decided to defer its decision on whether to publish an intention to declare control until the Commission had had an opportunity to evaluate the impact of Unison's settlement offer. The Commission received the offer from Unison on 1 March 2005, and proceeded to investigate whether the settlement offer might provide a better long-term outcome for consumers than control.
- 71 Unison's administrative settlement offer contained, among other things:
- a proposed future price path based on a starting price using Unison's actual March 2004 line charges, a post-tax nominal WACC of 8.4%—although, as with the earlier projections Unison had provided (paragraph 63), revaluation gains were not deducted in determining future line charge revenue—and price increases over the remaining regulatory period limited to the CPI;
 - an associated assessment of the financial performance of the Hawke's Bay, Rotorua and Taupo networks over the same period; and
 - a price path based on Unison's interpretation of the Commission's assessment framework outlined in the Guidelines.

Decision to Publish an Intention to Declare Control

- 72 In early July 2005, Unison sought interim orders from the High Court in Wellington to prevent the Commission from making a decision whether to publish an intention to declare control, pending the outcome of Unison's application for a judicial review of the Commission's threshold decisions. (These judicial review proceedings are due to be heard before the High Court in October 2005). The High Court dismissed Unison's application for these interim orders.²⁴ Unison appealed the High Court judgment, which the Court of Appeal subsequently upheld.²⁵
- 73 As a result of the Court of Appeal judgment, the Commission has been able to proceed with deciding whether to publish an intention to declare control on Unison. Having reviewed the administrative settlement offer and the earlier information provided by Unison, the Commission has decided to publish an intention to declare control. The Commission's preliminary view is that control of the distribution services supplied by Unison would be consistent with the Purpose Statement.
- 74 In particular, there is credible evidence before the Commission that:
- Unison is currently extracting excessive profits (paragraphs 200-218);
 - in the absence of price control, Unison would continue to earn excessive profits in future (paragraphs 224-245);

²⁴ Unison Networks Limited v The Commerce Commission, Judgment of MacKenzie J, CIV-2004-485-960, 29 July 2005.

²⁵ Unison Networks Limited v The Commerce Commission and Anor, Court of Appeal, CA161/05, 24 August 2005.

- Unison is currently earning significantly higher returns from consumers that are not beneficiaries of the Hawke's Bay Power Consumers' Trust (HBPCT) than those received from Unison's consumer owners (paragraphs 219-223);
- in the absence of price control, Unison would continue to earn significantly higher returns from consumers that are not beneficiaries of the HBPCT than the returns that would be earned from Unison's consumer owners (paragraphs 260-270); and
- there would be significant net benefits to consumers of imposing control (paragraphs 246-259). Such benefits would likely accrue more to Unison's Rotorua and Taupo consumers, but would nevertheless also be favourable to Hawke's Bay consumers (paragraph 271).

75 The following sections outline the Commission's general analytical framework and approach used in forming an intention to declare control, and present the Commission's specific analysis of the estimated net benefits to consumers from declaring control of Unison's distribution services, assuming that control would be able to realign prices to more efficient levels.

ANALYTICAL FRAMEWORK

- 76 This section sets out the generic analytical framework the Commission uses when determining whether to declare control (or form an intention to declare control), following a threshold breach by a lines business.

Basis for Declaring Control

- 77 In determining whether to declare control, the Commission must have regard to the overall purpose of the targeted control regime—namely, to promote the efficient operation of electricity transmission and distribution markets for the long-term benefit of consumers.
- 78 The Commission considers that there are three dimensions to the economically efficient operation of the markets for electricity lines services. These are when lines businesses:
- price their distribution and transmission services to reflect the efficient costs of supplying those services, thereby earning “normal” returns (*allocative efficiency*);
 - produce services at the desired quality at minimum cost (*productive efficiency*); and
 - have the appropriate incentives to invest, innovate and improve the range and quality of services, increase productivity and lower costs, over time (*dynamic efficiency*).
- 79 The Commission will form an intention to declare control if it is satisfied, on the basis of available evidence and analysis, that the long-term benefits to consumers of control exceed the costs, taking into account these dimensions of economic efficiency. The Commission is also guided by the specific outcomes outlined in the Purpose Statement (paragraph 8), the prioritisation criteria specific to the targeted control regime (s 57K of the Act), and the Commission’s standard enforcement criteria of detriment, conduct and public interest.²⁶

Efficient Prices and the Net Benefits to Consumers Test

Efficient prices and efficient costs

- 80 In determining the net benefits of control to consumers, the Commission considers that it should judge the performance of a lines business that has breached the thresholds against an “efficient prices” standard. Efficient prices are those which equate to efficient costs, including an efficient cost of capital. A business that receives returns equal to its efficient cost of capital can be considered to be earning “normal” returns. In other words, the business is not extracting excessive profits. However, if the business earns normal returns but incurs inefficient operational costs, for instance, its prices will still be above efficient levels.
- 81 The pricing outcomes achieved in markets where there is workable or effective competition are the general benchmark against which to compare the outcomes in markets in which competition is limited, such as the market for electricity distribution

²⁶ Commerce Commission, *supra* n 7, pp 22-23.

and transmission services. Businesses facing workable competition will, over time, receive normal returns, will face incentives to incur only efficient costs, will provide services at the quality that consumers demand, and will share the benefits of efficiency gains with consumers.

- 82 Consequently, over time, lines business prices should satisfy the three dimensions of economically efficient market operation (paragraph 78), thereby:
- allowing for normal returns to be earned, calculated on an appropriately determined asset base and risk-adjusted rate of return, and covering only efficient operating costs;
 - encouraging dynamic efficiency, by sending the appropriate signals for investment (or divestment); and
 - aiming for allocatively efficient price levels, commensurate with the level of service quality demanded and based on productively and dynamically efficient costs.

Net benefits to consumers of control

- 83 Control is generally intended to realign prices to more efficient levels, which may first require realigning quality to the levels that consumers demand. The potential net benefits to consumers of control over time are the direct and indirect benefits of control less the direct and indirect costs of control. The benefits of control may be classified as:
- transfers to consumers, primarily resulting from any excess returns being reduced by control;
 - the tax effect associated with reducing excess returns;
 - allocative efficiency gains;
 - productive efficiency gains; and
 - dynamic efficiency gains.
- 84 By its very nature, such a “net benefits” to consumers test requires that the Commission not only consider past behaviour and performance, but planned actions of the business for some years going forward (e.g., 5 years, which is the maximum length of time for a declaration of control).

Relationship to Part IV inquiries

- 85 This form of analysis is similar, in principle, to that used by the Commission in its recommendations to the Minister of Commerce on the control of certain airfield activities (the Airports Control Inquiry),²⁷ and to the Minister of Energy as to whether gas pipeline services should be controlled (the Gas Control Inquiry),²⁸ both under Part IV of the Act.
- 86 However, although the analytical framework is similar, the decision criterion applicable under Part 4A of the Act is different to that applied under Part IV of the Act. Whereas Part IV refers to the “interests of acquirers” alone, Part 4A refers to “the long-term

²⁷ Commerce Commission, *Airports Inquiry: Final Report*, 1 August 2002.

²⁸ supra n 8, Chapters 4-6.

benefit of consumers” and outlines some specific forward-looking outcomes that demonstrate how that objective is to be achieved (paragraph 8). Also, the Part IV decision involves assessing the performance and behaviour of firms in a currently unregulated industry, whereas Part 4A relates to the already regulated electricity lines sector.

- 87 For the recent Gas Control Inquiry, the Commission undertook net benefits analyses based on actual past outcomes as well as forecast outcomes. In the Commission’s view, a combination of historic and future data best represented the likely situation in the gas pipeline services market in future, given that there was a possible incentive for gas pipeline businesses to provide forecast information that was conservative or perhaps pessimistic about future returns. The impact of using such “pessimistic” information might have been to change the Commission’s recommendations as to whether regulation should be imposed.
- 88 In contrast, an electricity lines business that is the subject of a post-breach inquiry would still be subject to the price path threshold, even if the Commission decided not to declare control because that business understated its future performance (which the Commission considers likely for a business facing the prospect of control). As a result, the analysis following a breach can be predominantly forward-looking, consistent with the overall objective and specific outcomes of the Purpose Statement.
- 89 Nevertheless, past behaviour and the circumstances that led to the breach may also be relevant to the control decision. For instance, trends from past data may prove to be useful in considering the appropriateness of forecast information and the past may, in some situations, be an appropriate predictor as to the future. However, the extent to which the Commission might take past and future information into account will depend on the specific circumstances.
- 90 In any event, the Commission’s implementation of its Part 4A functions comprises both backward- and forward-looking elements, given that the thresholds themselves were set from an analysis of the historical price/quality performance of all the lines businesses, and that control, where imposed, would be for the long-term benefit of consumers going forward. In the Commission’s view, control is not a backward-looking punishment for a threshold breach. Rather, control is a forward-looking instrument used to achieve the Purpose Statement.

The “Counterfactual” and the “Factual”

Difference between the counterfactual and the factual

- 91 The net benefits test involves comparing:
- the prices and/or quality of services that would be obtained in the absence of control (the “*counterfactual*”); with
 - those that might be obtained under control (the “*factual*”).
- 92 This is a comparison between two hypothetical situations and requires the Commission to form a view based on the pragmatic considerations of each situation.

- 93 Prices (or revenue) and quality under the counterfactual would, in general, be set in accordance with current policies of the lines business, taking into account relevant information from business plans and associated forecasts of demand and relevant expenditures. Given the lines business has breached a threshold the counterfactual would not necessarily assume future compliance with thresholds.
- 94 Prices (or revenue) under the factual would, in general, be at the level deemed efficient for a given level of service quality, meaning that efficient costs (including the efficient cost of capital) would be covered, but no more. However, as noted below (paragraph 105), the Commission may not need to estimate efficient costs in order to be able to make a decision to declare control or form an intention to declare control.

Effect of control

- 95 Control is assumed to realign lines business prices from inefficient levels to more efficient levels. While this will usually mean that control results in price reductions, prices that are too low rather than too high may also be inefficient. In particular, lines businesses that consistently earn returns below their efficient cost of capital will find it difficult to invest in their networks (including investment to replace assets that have reached the end of their useful lives). Such an outcome would be as inconsistent with the Purpose Statement as is a situation where a business is consistently extracting excess returns (i.e., monopoly profits).
- 96 For the case where control would reduce prices to more efficient levels, there will be a number of consequences of those price reductions. Benefits will clearly accrue directly to consumers from the reduction in price. The reduction in price will comprise:
- the removal of any excess returns (i.e., “transfers” from the business to consumers);
 - a possible reduction in capital and operational costs due to improved efficiencies; and
 - the associated tax effect of any reduction in price caused by the previous factors.²⁹
- 97 In addition to the benefits due to price reductions there may also be allocative and dynamic efficiency effects—both benefits and costs—resulting from the change in prices.

Use of modelling

- 98 The net benefits test is undertaken by modelling the prices (and associated costs and revenues) for both the factual and the counterfactual, and estimating the net benefits to consumers of control in terms of transfers to consumers, efficiency effects and tax effects.
- 99 The Commission notes that the value of such modelling is not in its ability to produce “proof” of net benefits of control, nor to supplant the Commission’s exercise of judgement, but rather in providing support to the Commission’s deliberations by:

²⁹ The tax effect arises because a price reduction will result in a lower revenue, which—all other things being equal—will lead to a lower taxable income. This lower taxable income will in turn result in a lower tax payable obligation, which means that the business faces lower costs and requires lower revenue to recover those costs.

- focusing parties' attentions on verifiable economic arguments;
- making transparent the values of the key parameters and assumptions in the analysis; and
- producing quantitative estimates of the outcomes of control.

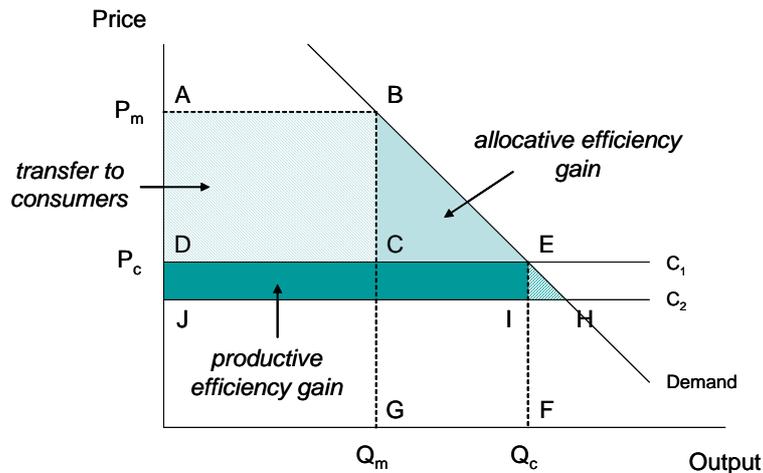
100 The Commission's judgment may require consideration of other criteria not readily quantifiable in a net benefits analysis. Similarly, the Commission does not need to quantify those factors that it does not consider are critical to the decision at hand. In particular, the Commission is mindful not to incur unnecessary administrative and compliance costs by undertaking analysis that might not be particularly material to the decision.

Benefits and Costs of Control

Potential benefits of control

101 The potential direct benefits of control relate to reducing any inefficiencies (allocative, productive and dynamic) and/or excess returns in a market. Figure 2 illustrates the broad conceptual framework the Commission uses to assess the potential benefits of imposing control on a business charging prices above the workably competitive level.

Figure 2: Assessing the Benefits of Control



102 P_m —the monopoly price—represents the price under the counterfactual scenario. P_c —the workably competitive price—represents the price that the business would be allowed to charge under control (for all regulated services). P_c is commensurate with the business recovering an efficient level of costs.

103 Efficient costs include both an efficient return *of* assets (i.e., depreciation) as well as an efficient return *on* assets (i.e., profit). For a regulated business a “normal” return or profit occurs when the rate of return on its regulatory asset base—on average over a number of years—is equal to its weighted average cost of capital (WACC).

- 104 In the absence of control, the price–quantity outcome is (P_m, Q_m) . With control, prices fall and output increases, and the new price–quantity outcome is (P_c, Q_c) .³⁰ The efficiency effects are as follows.
- The area ABCD represents a *transfer* of excess returns from the company to consumers (i.e., “monopoly rents”), reflecting lower prices for the quantity Q_m .³¹ While in overall efficiency terms (i.e., net public benefits) this transfer is assumed to have no direct effect, since one party gains at the expense of the other, this transfer is particularly significant for assessing the long-term benefit to consumers of control in line with the Purpose Statement (paragraph 8).
 - The area BCE represents an *allocative efficiency* gain, as the value to consumers of the additional output (BEFG) exceeds the cost of producing it (CEFG).
 - Control may also generate *productive efficiency* gains, represented above by a downwards shift in costs from C_1 to C_2 . Productive efficiency gains are represented by the area DEIJ. If these gains are passed through to consumers through lower prices, there is an additional allocative efficiency benefit represented by the area EHI.

Information sources for the net benefits analysis

- 105 The Commission may—at least initially—be able to form an intention to declare control on the basis of deriving factual prices from the *business’s* forecast operating and capital expenditures rather than the Commission’s estimates of future efficient costs. The use of the business’s projections in the first instance may allow the level of regulatory costs and intrusiveness associated with undertaking the post-breach inquiry to be reduced (paragraph 100).
- 106 The Commission considers it likely that efficient costs will be lower than the projections provided by a business facing the prospect of control. Therefore, using the business’s cost projections will generally be conservative in favour of that business. Consequently, a finding of significant net benefits of control would most likely understate those benefits. Alternatively, if using the business’s forecast costs were to result in apparent net *costs* of control, it may be necessary to undertake a more in-depth analysis to estimate efficient costs and associated revenues.
- 107 Similarly, more scrutiny of a business’s own forecasts would likely be warranted in finalising the terms and conditions of an administrative settlement, or in authorising prices following a declaration of control, than is required in forming an intention to declare control. In addition, for an administrative settlement or price authorisation, the Commission may need to consider any ongoing financing or other obligations of the business, to the extent that these are consistent with the long-term interest of consumers.
- 108 Where transfers to consumers appear significant, the Commission may not need to estimate the efficiency gains from control in order to be able to form an intention to declare control. As with the use of the business’s own cost projections to develop the factual, such an approach is conservative in favour of the lines business.

³⁰ For many electricity consumers, their demand for distribution and transmission services is likely to be highly inelastic, meaning that the output effects and allocative efficiency effects are likely to be small.

³¹ In the presence of taxation, there is a tax effect of the transfer that is an additional benefit to consumers (n 29).

Form of control

- 109 The Commission considers that the costs of control can only be assessed when the nature of that control is made explicit. While not wanting to predetermine the form of control in the event that it declares control, the Commission assumes CPI-X price cap regulation for the purposes of evaluating the costs of control. If the Commission were to decide to proceed with imposing control it would, however, consult with interested parties on the appropriate form of control (paragraphs 30-31).
- 110 Price cap regulation was the form of control assumed in evaluating the costs of control in both the Airports Control Inquiry and the Gas Control Inquiry (paragraph 85), and is one of the most frequently used forms of price control overseas. Overseas experience demonstrates that this form of control can be used in either a heavy-handed or light-handed way. Price cap regulation may be implemented to encompass standards and/or incentives for lines businesses to provide services at a quality demanded by consumers.

Potential costs of control

- 111 In general, the costs of control comprise direct and indirect costs. The direct costs of control include:
- the compliance costs of the regulated entities and other market participants involved in the regulatory process (e.g., the cost of staff time, the information supply costs, the diversion of time of senior executives); and
 - the administrative costs of the regulatory body.
- 112 The indirect costs of control are related to the inefficient forms of behaviour stimulated by control, and—at least theoretically—can include:
- the distortions to behaviour caused by the potential for poor, or uncertain, regulatory decision making (in terms of allocative, productive and dynamic inefficiencies);
 - the scope given for opportunistic behaviour on the part of the regulator and the regulated firm; and
 - the potential for regulatory capture (with the regulator coming to serve particular groups' interests), and a subsequent movement away from efficient outcomes.

ANALYTICAL APPROACH

113 This section describes the Commission’s generic methodology for determining the factual and counterfactual used in the net benefits analysis. It also describes the approach for determining the costs of control.

Scope of the Net Benefits Analysis

114 Lines businesses are often involved in a range of activities other than monopoly distribution and transmission services, possibly including other activities in the electricity sector (e.g., appliance sales), as well as activities in a different sector (e.g., supply of natural gas).

115 The Commission does not consider it appropriate to regulate activities that do not need regulating, such as the provision of contestable services (e.g., electrical contracting, if workable competition exists). Therefore, only assets, revenues and expenses associated with “ring-fenced” monopoly line services are applicable in undertaking the net benefits analysis. However, some information concerning non-regulated activities may still be required to verify or clarify the scope and characteristics of information relating to regulated services.

Determining Efficient Revenues under the Factual

Comparative benchmarking

116 In its Guidelines, the Commission indicated that there are two broad approaches the Commission could consider in determining efficient prices under the factual.³² The first involves benchmarking the lines business’s prices against those of comparable services provided by other lines businesses. The other is to construct efficient prices using theoretical models, through techniques such as “building blocks” analysis. These approaches are not mutually exclusive, and the Commission may well use them both, possibly in sequence.

117 However, where it is known that the likely future plans of the lines business are based on projections of costs and revenues significantly different from its present position, a disadvantage of comparative benchmarking is that it portrays comparisons based on current and past performance. In such instances a forward-looking analysis using the building blocks approach, based on projected information, assumes greater significance.³³

Building blocks analysis

118 Building blocks analysis generally involves determining:

- the efficient asset base required by the lines business to provide lines services;
- the efficient rate of return on capital (i.e., WACC);

³² Commerce Commission, supra n 7, pp 36-37.

³³ Such is the case for the Commission’s post-breach inquiry of Unison, given the information available to the Commission on Unison’s likely future behaviour (paragraphs 62-63 and 71).

- the efficient rate of return of capital (depreciation); and
- the efficient level of operating costs.

119 In general, these “efficient cost” building blocks under the factual—along with the tax payable obligation associated with these building blocks, and the necessary adjustment for revaluation gains—are used to calculate the efficient factual revenue in each year, as follows:

$$R_f = A_f \times WACC + D_f + O_f + T_f - G_f$$

- where: R_f is the factual revenue;
- A_f is the factual regulatory asset base value;
- $WACC$ is the post-tax nominal weighted average cost of capital;
- D_f is the factual depreciation of the regulatory asset base;
- O_f is the factual operating cost;
- T_f is the factual regulatory tax allowance (comprising tax payable plus the interest tax shield); and
- G_f is the revaluation gain (loss) associated with applying a nominal WACC to an indexed regulatory asset base value.

120 Should a lines business’s projected revenues, as specified in the counterfactual, exceed its total efficient building block costs estimated as part of the factual (including an efficient return on and return of capital), the business will be deemed to earn excess returns involving transfers from consumers to the business. The Commission then needs to establish whether a lines business that persistently earns excess returns over time is doing so by exploiting a position of market power to the detriment of consumers. Evidence that profits in the future are likely to be persistent and material might lead the Commission towards an intention to declare control, if it were satisfied that control would result in net benefits to consumers.

121 As noted above (paragraphs 105-106), the Commission may be able to form an intention to declare control on the basis of using revenues derived from the business’s *own* forecast costs, given that this would generally be a conservative approach in favour of the business. The business’s own cost projections are likely to exceed efficient levels, meaning that the factual revenue path lies above the true efficient revenue path. As the benefits of control are very dependent on the difference between the counterfactual and factual revenue paths, a higher factual revenue path will—all other things being equal—lead to reduced estimates of the benefits of control.

122 Each component item of the factual (paragraphs 123-182) and counterfactual is described below (paragraph 183-185).

Regulatory Asset Base and Depreciation

System fixed assets

123 The valuation of the assets employed to deliver the relevant line services is central to the building blocks approach for determining efficient prices. In general, the value of the regulatory asset base used in the building blocks approach encompasses the value of

all fixed assets. For lines businesses, this amount is generally dominated by the value of lines business system fixed assets, being only those fixed assets associated with the conveyance of electricity.

- 124 In the Commission's Companion Report³⁴ to its Handbook for Optimised Deprival Valuation (ODV) of System Fixed Assets of Electricity Lines Businesses (the ODV Handbook),³⁵ the Commission outlined the role of asset valuation in the Part 4A regulatory regime. The Companion Report indicates that, during a post-breach inquiry, the Commission generally intends using the opening ODV valuations as at 31 March 2004, prepared by lines businesses using the Commission's ODV Handbook, for deriving the value of the system fixed assets in the regulatory asset base.
- 125 The reason for using the ODV method is because it provides valuations for network assets consistent with contestable market outcomes (i.e., comparable to those in a market with workable competition). Accordingly, the ODV method provides an implicit restriction on monopoly pricing of distribution and transmission services. Also, because it involves optimisation of the asset base, and writing down the value of network assets where their optimised depreciated replacement cost (ODRC) exceeds their economic value (EV), it provides incentives for efficient investment.

Non-system fixed assets

- 126 Non-system fixed assets directly relevant to the supply of distribution and transmission services are also included in the regulatory asset base. Such assets might include motor vehicles, information technology, office equipment, and non-network land and buildings. These assets are valued in the regulatory asset base consistent with the basis used by the businesses for statutory financial reporting.

Updating the regulatory asset base

- 127 The regulatory asset base is updated in each year of the building blocks analysis by adding in additions to the regulatory asset base and subtracting disposals and depreciation. Revaluations (or devaluations) of the regulatory asset base must be taken into account. Additions to the regulatory asset base include efficient capital expenditure and capital contributions associated with gifted (or vested) assets (paragraph 185).
- 128 The Commission has previously proposed that lines businesses may be permitted to choose between using either the ODV method or the indexed historic cost (IHC) method for valuing their system fixed assets under Part 4A, and be required to commit to applying the chosen method consistently thereafter.³⁶
- 129 The Commission has proposed that, under either approach, the value of system fixed assets would be indexed, either by using the CPI or some form of replacement cost

³⁴ Commerce Commission, *Regulation of Electricity Lines Businesses, A Companion Report to the Handbook for Optimised Deprival Valuation of System Fixed Assets of Electricity Lines Businesses*, 31 August 2004.

³⁵ Commerce Commission, *Handbook for Optimised Deprival Valuation of System Fixed Assets of Electricity Lines Businesses*, 30 August 2004.

³⁶ Commerce Commission, *Regulation of Electricity Lines Businesses, Implementing Valuation Choice for System Fixed Assets, Draft Decisions and Discussion Paper*, 24 December 2004, p 1. The Commission is still consulting on the issue of asset valuation choice as part of its review of the information disclosure regime (n 23).

index. (For ODV valuations, indexing would be undertaken each year that a full valuation, using updated standard replacement costs for system fixed assets, is not undertaken).³⁷

- 130 Until the Commission makes its final decision concerning asset valuation choice, and has specified its approach to indexing the value of system fixed assets, the Commission is relying on valuations for system fixed assets based on the ODV Handbook and indexed using the CPI. Therefore, in the building blocks analysis, system fixed assets are revalued by the CPI in each year, after depreciation has been applied.
- 131 Consequently, the annual movements in the regulatory asset base (RAB) for the current year (i.e., t) are calculated using the following formula:

$$RAB_t = RAB_{t-1} - Depreciation_t + Revaluations_t + Additions_t - Disposals_t$$

- 132 The efficient regulatory asset base (“A” from the equation in paragraph 119) is taken as the average of the opening and closing regulatory asset base, excluding revaluation gains (or losses), for each year of the analysis, calculated as follows.

$$A_t = (RAB_t - Revaluations_t + RAB_{t-1})/2$$

- 133 As with other parameters, the business’s own forecast capital expenditure may be used in the first instance, rather than the Commission’s estimates of efficient capital expenditure.³⁸
- 134 Where it appears that the level of capital expenditure is material to the Commission’s decision whether to publish an intention to declare control, then the Commission may need to scrutinise the business’s planned capital investment programme in detail. In addition, as noted above (paragraph 107), more scrutiny of a business’s own projections is likely to be necessary in reaching an administrative settlement or in authorising prices following a declaration of control, than is the case at the intention stage.

Depreciation

- 135 Depreciation is calculated on system fixed assets valued at their ODV using a straight line depreciation method and the assigned asset lives allowed in the ODV Handbook. Depreciation for non-system fixed assets is calculated using the depreciation rules applied by the business for statutory financial reporting.

Net working capital and work in progress

- 136 The conventional revenue setting process acts as if all cash flows during the year arise at year end. Of course, this is an approximation to the true situation. Revenues will be received on average in the middle of the year subject to the collection delay. Similarly, operating cash flows are paid on average in the middle of the year subject to the payment delay. Taxes and capital expenditures are also paid on average at some point during the year. A specific provision for working capital is an approximation to an explicit recognition of delays in receiving revenues and paying operating costs.

³⁷ *ibid*, pp 13, and 47-48.

³⁸ For the building blocks analysis of Unison presented in this paper, Unison’s own capital expenditure forecasts have been used.

- 137 The Commission assumes that cash flows are received at year end, with two exceptions. First, half of capital expenditures are made at the beginning of the year and the remainder at year end. Second, and in respect of the regulatory depreciation component of revenue, half is received at the beginning of the year and the remainder at year end. These assumptions are implicit in the “building block” approach when the WACC is applied to the average of the opening and closing regulatory asset bases exclusive of revaluations.
- 138 While this approach reduces the level of error associated with not recognising the precise cash flow timing of revenue and expenditures, it does not eliminate it altogether. In the Commission’s view, the level of error is conservative in favour of the lines business. Consequently, given this effective allowance for the timing of cash flows, there is no need to separately allow for net working capital.
- 139 Where financial costs during construction are included in forecasts of capital expenditure, it is not necessary to separately include work in progress as a component of the regulatory asset base. On the other hand, if finance during construction costs are material, and have not been included in capital expenditures, then it may be appropriate to make an explicit provision for work in progress in the regulatory asset base.³⁹

Goodwill

- 140 Goodwill arises where the acquisition of assets occurs at transaction values higher than regulatory values (or higher than the value included in statutory financial reporting).⁴⁰ The Commission explicitly excludes any goodwill from the regulatory asset base. A key reason for using a method such as ODV for valuing system fixed assets for regulatory purposes is to break the circularity inherent in valuing unregulated monopoly businesses based on discounted future cash flows, by using a contestable markets benchmark.
- 141 Allowing lines businesses a return on acquisition values in excess of ODV would be inconsistent with a required outcome of subpart 1 of Part 4A—namely that lines businesses are limited in their ability to extract excessive profits (paragraph 8).

Weighted Average Cost of Capital (WACC)

- 142 Underlying efficient pricing is an understanding that businesses in a workably competitive market will earn normal returns on average over time. Normal returns means returns achieved in competitive markets which are commensurate with the risks faced. The weighted average cost of capital (WACC) is used for the purpose of determining the risks faced by a business and the commensurate returns in percentage terms. The efficient WACC is applied to the value of the regulatory asset base in each year to determine annual normal returns in dollar terms.

³⁹ For the analysis of Unison, it has been assumed that financing costs are included in the capital expenditure projections.

⁴⁰ The value of system fixed assets for regulatory purposes using the ODV methodology as specified by the Commission is unlikely to differ significantly from the value of those assets in the statutory financial statements, particularly given that the Commission has signalled it favours indexing the value of system fixed assets going forward. Statutory financial reporting requires that system fixed assets be recorded at “fair value”, and the use of an ODV (or ODRC) methodology may be appropriate for the purposes of determining fair value.

143 The WACC can be determined on a pre-tax or post-tax basis, and in real or nominal terms. The choice of approach affects the way various elements of the factual and counterfactual are calculated, particularly the regulatory tax allowance (paragraph 158) and revaluation gains (paragraph 181).

144 Consistent with its specification of the weighted average cost of capital for other sectors, the Commission applies a *post-tax nominal WACC* and uses the following methodology for calculating it.⁴¹

$$WACC = k_e(1 - L) + k_d(1 - t)L$$

where: k_e is the cost of equity capital,

k_d is the current interest rate on debt capital,

t is the corporate tax rate (i.e., 33%) and

L is the leverage ratio (i.e., the ratio of: debt capital; to debt capital plus equity capital).

145 In this model, k_d is estimated as the sum of the current risk free rate (r_f) and a premium (p) to reflect marketability and exposure to the possibility of default.

$$k_d = r_f + p$$

146 The cost of equity is determined by a simplified version of the Brennan-Lally model of the Capital Asset Pricing Model:

$$k_e = r_f(1 - t_i) + \phi\beta_e$$

where: t_i is the average investor tax rate on interest income (assumed to be 0.33),

ϕ is the market risk premium, and

β_e is the beta of equity capital.

147 The equity beta is related to the leverage ratio L , according to:

$$\beta_e = \beta_a \left[1 + \frac{L}{1 - L} \right]$$

where: β_a is the asset beta (equity beta in the absence of debt).

148 The Commission's current point WACC estimate for electricity lines businesses is 7.35%. This is based on a three year risk free rate of 6.3% as at April 2005, a market risk premium of 7%, an asset beta of 0.4, and an assumed "efficient" leverage of 0.4.⁴²

Operating Costs

149 Under workable competition firms are driven towards an efficient level of operating costs. For the building blocks analysis this requires establishing forecasts of the efficient operating costs of providing line services, in light of planned efficient capital

⁴¹ Refer Lally M., *The Weighted Average Cost of Capital for Electricity Lines Businesses*, 8 September 2005, p 8.

⁴² *ibid*, p 4.

expenditure going forward (given that there is a trade off between capital and operating expenditure).

- 150 If a lines business is involved in a range of regulated and non-regulated activities then it is necessary to identify the costs relevant to the electricity lines business (i.e., to ring-fence the business' electricity lines business activity from the other business activities). Allocation of costs between the lines business and other parts of the business, both in respect of other activities within the electricity sector and activities in a different sector will be an integral component of assessing a lines business's efficient operating costs.
- 151 However, as noted above (paragraph 105), if the level of operating expenses appears not to be material to the Commission's decision to form an intention to declare control, the Commission may not need to estimate efficient operating costs, or to scrutinise the manner in which the business allocates costs between regulated and non-regulated activities. Instead, the business's own assessment of its costs can be used to develop the revenues in the factual.⁴³
- 152 For distribution businesses, the building blocks analysis can be undertaken inclusive or exclusive of costs and revenues associated with the transmission charges set by Transpower, given that these are pass-through costs not associated with the provision of distribution services. If costs associated with transmission charges are excluded from (or included in) operating expenses in the factual then a commensurate level of costs should be excluded from (or included in) revenue in the counterfactual.

Regulatory Tax Allowance

General approach

- 153 The Commission's approach to tax seeks to model the actual tax obligations of the ring-fenced lines business, were it acting efficiently. This means that the impact on tax obligations from a move to more efficient capital and operational costs would need to be taken into account in the building blocks analysis. For instance, all other things being equal, any reduction in capital or operating expenditure would actually increase the lines business's tax obligation.
- 154 In a workably competitive market—where costs will be driven toward efficient levels—any additional tax benefits realised, or additional tax costs incurred, by a firm would tend to be passed on to consumers over time.⁴⁴ In particular, any tax benefits should not be able to be retained by a monopoly lines business in perpetuity, as this would not be consistent with the outcomes sought under the Purpose Statement. Such benefits include the net tax benefits that arise from asset transactions in excess of tax book value, as well as the benefits from accelerated tax depreciation early in the life of assets.
- 155 To model this approach, the Commission considers it necessary to use a measure of tax that is intended to estimate the actual tax payable to the Inland Revenue Department

⁴³ Such has been the case for the Commission's post-breach inquiry of Unison.

⁴⁴ As noted earlier (n 23), the Commission is currently consulting on a number of issues relevant to building blocks analysis, including tax treatment, as part of its review of the information disclosure regime. However, as with net working capital, the calculation of tax is not material to the Commission's decision to form an intention to declare control on Unison, and the approach taken in this paper should not be considered to pre-determine the Commission final decisions on tax for information disclosure.

(IRD) attributable to the ring-fenced lines business.⁴⁵ However, the determination of the appropriate tax payable values for the Commission’s building blocks analysis is complicated by two key factors:

- the need to ring-fence the tax obligations associated with regulated lines business activities; and
- the need to appropriately account for the tax effect of interest (i.e., the interest tax shield).

Ring-fencing the tax obligations

156 Companies that engage in lines business activities subject to the Part 4A regulatory regime are typically involved in other activities—either other monopoly activities (e.g., gas pipeline services) or non-regulated activities (e.g., an electrical contracting business). This means that the actual tax payable obligation due to the lines business in respect of its lines business activities cannot be readily ascertained from a lines business’s income tax returns, because businesses calculate tax on a consolidated rather than a business activity basis. In addition, the tax position of the ring-fenced lines business may have implications for the tax obligations of the wider tax group if the ring-fenced lines business is assessed as being in a tax loss situation. These losses can be immediately offset against any profits made by other activities to reduce the current year’s tax bill.

157 To address this first complicating factor, the Commission calculates the tax payable derived from the regulatory accounts of the regulated part of the lines business by applying tax rules (i.e., with adjustments for permanent and timing differences as described below in paragraphs 163-169). For the building blocks analysis, this requires using the efficient building block components to derive the tax payable position of the ring-fenced lines business. As part of this calculation, any subvention payments to or from other entities within the same tax group as the lines business, and the tax effect of those subvention payments, must be backed out of the regulatory accounts of the lines business. The impact of any tax losses must also be considered (paragraphs 171-179).

Accounting for the tax effect of interest

158 In calculating excess returns, the Commission follows standard practice for cases where the WACC is calculated on a post-tax basis by incorporating the interest tax deduction in the WACC formula (paragraph 144). However, this means that the regulatory tax allowance consistent with the WACC value is the tax payable in the absence of debt (i.e., “unlevered tax payable”), rather than a tax payable amount based on taxable income after deducting interest (i.e., “levered tax payable”). Using levered tax payable as the building blocks value for the regulatory tax allowance would effectively double-count the tax effect of interest—once through a deduction in the WACC formula, and the second time through a deduction in the calculation of the regulatory tax allowance.

159 To address this second complicating factor is relatively straightforward. The levered tax payable position derived from the building block components must be adjusted by the interest tax shield, which is the tax effect of the interest deduction, calculated by

⁴⁵ Note that this value is the actual tax *obligation* associated with the ring-fenced lines business and not the sum of the provisional tax payments made during the year.

reference to an assumed “efficient” leverage ratio and to the regulatory asset base (paragraphs 160-162).⁴⁶ The regulatory tax allowance used by the Commission in its building blocks analysis is therefore equal to: the levered tax payable plus the interest tax shield.

Calculating the interest tax shield

- 160 The Commission determines post-tax nominal WACC based on an assumed efficient leverage ratio (paragraph 148). The WACC value is not very sensitive to this assumption. However, where tax losses arise, the regulatory tax allowance used in the building blocks analysis will be closely dependent on the level of the interest tax shield, which is sensitive to the assumed leverage ratio. This is because the efficient leverage ratio is applied to the regulatory asset value to derive the level of debt associated with the ring-fenced lines business. As for tax payable, where the business is also involved in unregulated activities, the level of debt associated with the ring-fenced lines business may not be directly observable.
- 161 Applying the efficient leverage ratio to the regulatory asset value will in most circumstances provide a reasonable estimate of the interest obligations of the ring-fenced lines business—with the tax effect of this obligation being the calculated interest tax shield. However, if the interest tax shield calculated on this basis is significantly different from the lines business’s actual interest tax shield, then the levered tax payable calculated by the Commission may also differ from the business’s actual tax payable obligations. Such a situation might be particularly significant where the business has incurred limited levels of debt and the interest tax shield is the main contributor to the magnitude of the regulatory tax allowance.
- 162 In such circumstances, where it is not realistic to expect the business concerned to be able to achieve the efficient leverage ratio, the Commission may need to adjust the assumed leverage ratio to more closely reflect actual conditions.

Permanent differences

- 163 Permanent differences arise from the differing treatment of revenue and expenses between the regulatory and tax accounts. For example, rebates to consumer owners are not recognised as an expense under regulatory accounting rules but are allowed as a deductible expense according to tax rules. Similarly, renewals expenditure may be deducted for tax purposes but it is considered to be capital expenditure in the regulatory accounts. On the income side, capital contributions (paragraphs 185-186) may be recorded as income under regulatory accounting rules, but are not all assessable as income for tax purposes. These differences do not reverse over time.
- 164 Where the depreciable values of the regulatory and tax asset bases differ, the tax effect of this difference also results in a permanent difference and arises from:
- the routine revaluation of system fixed assets valued using the ODV method (paragraph 129), whereas the tax asset base is not revalued; and/or

⁴⁶ Using an unlevered regulatory tax allowance (i.e., inclusive of the interest tax shield) with a post-tax WACC is equivalent to using a levered tax payable amount with a “vanilla” WACC (i.e., the weighted sum of the post-tax return on equity and the *pre-tax* return on debt). The latter approach is used by Ofgem in the UK.

- the acquisition of assets at a tax book value above (or below) ODV.⁴⁷
- 165 Using the lines business's tax book value and tax depreciation to derive tax payable is more reflective of the actual tax obligations of the business. While it is debatable whether any particular tax book value can be considered more "efficient" than any other, the reality is that—unlike much capital or operational expenditure—lines businesses may have little control over their inherited tax book value. Some lines businesses have tax book values significantly higher than their regulatory asset values, typically where system fixed assets have been acquired at substantial premia over ODV. The combined effect of a high tax book value and the high depreciation rates typically applicable under tax rules (paragraphs 167-168) will result in a significant deduction of depreciation from income for tax purposes.
- 166 On the other hand, some businesses have tax book values significantly below regulatory asset values, reflecting the impact over time of inflation on the regulatory asset base and of accelerated depreciation on the tax base, particularly for businesses that have not experienced much growth. In determining their actual tax obligations, such businesses will only be able to deduct relative smaller levels of depreciation. Consequently, the Commission's approach to determining tax payable bases tax depreciation on the tax book value of the ring-fenced lines business assets, thereby more closely reflecting the deduction of depreciation for tax purposes that the business actually makes.

Timing differences

- 167 Timing differences between the regulatory and tax accounts arise when the financial period in which some revenues and expenses are brought to account differs for tax and regulatory accounting purposes.
- 168 This primarily arises where the depreciation rates used are different:
- either because an asset depreciates over a shorter timeframe in the tax accounts, because allowable asset lifetimes are shorter under tax rules than under regulatory requirements; and/or
 - because the basis of depreciation is different, for instance where tax rules allow diminishing value depreciation, but the regulatory accounts require the use of straight line depreciation.
- 169 Because of the above factors, tax rules allow faster depreciation on network assets than is generally provided by regulatory accounting rules. This results in depreciation for tax purposes being higher than depreciation in the regulatory accounts in the earlier part of an asset's life, resulting in lower assessable income and lower tax payable in earlier

⁴⁷ If an asset is sold above its existing tax book value, tax rules effectively assume that the seller has claimed too much depreciation in the past, and the excess depreciation is then "clawed" back. The gross clawback (i.e., depreciation recovery) is treated as income for tax purposes by the IRD. In the Gas Control Inquiry, the Commission explicitly made adjustments to the calculation of excess returns for the effect of the depreciation clawback associated with past acquisitions made by gas pipelines business, because the analysis involved both historic and forecast information (paragraph 87). However, for the forward-looking analysis presented in this paper, any past clawbacks are irrelevant because they do not affect future tax obligations or the revenue path under the factual. For this reason, no clawback adjustment, such as those made in the Gas Control Inquiry, has been made in respect of Unison's 2002 purchase of the Rotorua and Taupo networks (paragraph 38). A clawback adjustment could only be made in respect of future asset sales during the analysis period, and these generally cannot be predicted.

periods. The payment of tax is effectively deferred until later years. The result is the creation of a deferred tax liability early in an asset's life. In the later part of the asset's life, as the tax book value and tax depreciation approach zero, the resulting tax payable is higher, reducing the deferred tax liability to zero.⁴⁸

- 170 Consequently, the Commission's approach to determining tax payable derives tax depreciation using the IRD's depreciation rates for the ring-fenced lines business assets. As with basing tax depreciation on the tax book value of the ring-fenced lines business, this approach more closely reflects the deduction of depreciation for tax purposes that the business actually makes.

Treatment of tax losses

- 171 In tax accounts, actual levered tax payable to the IRD does not drop below zero. Should the levered tax payable for the current year be less than zero, it will generally be carried forward to the following year to offset that year's tax obligation (or to accumulate with next year's tax loss). Hence, the current year's levered tax payable amount will be zero. However, if the tax loss can be offset against another entity in a tax group, then some or all of that loss might be able to be used in the current year. Only the amount of the loss that is not used would then be carried forward.
- 172 For the building blocks analysis, the situation is complicated by the two factors already identified above (paragraph 155). First, only the tax payable associated with the regulated activities of the business is directly relevant, and secondly, to be consistent with the WACC calculation, the regulatory tax allowance must include the interest tax shield.
- 173 In regards to the first factor, tax losses generated in the ring-fenced lines business may be able to be used to offset profits in other parts of the business. If so, such a flow of funds across the boundary of the ring-fenced lines business needs to be recognised. Otherwise, the benefits of that tax loss will be realised by the other parts of the business rather than by the electricity consumers served by the lines business. Hence, to ignore the shift of tax losses would ignore that the benefit associated with the tax losses arose by providing line services to those consumers. Although the IRD does not provide a refund for tax losses to the business as a whole, a transfer of tax losses from the ring-fenced lines business to another part of the business is equivalent to the IRD giving an immediate refund to the ring-fenced lines business and, in the Commission's view, should be recognised as such.
- 174 As to the second factor, the regulatory tax allowance in the building blocks analysis is simply found from the levered tax payable plus the interest tax shield, as explained above (paragraph 159). However, in all cases, the applicable levered tax payable amount to be used is the amount *after* having taken account of any tax losses that can be utilised in either the ring-fenced lines business or the wider tax group.

⁴⁸ Commonly in practice, however, the constant rate of renewal of assets in a situation of network growth means that while timing differences on individual assets reverse, there is an aggregate deferred tax liability that may not. Such is the case until assets are disposed of, or where the ability to carry forward tax losses is extinguished by a change in the continuity of ownership.

- 175 For example, where the levered tax payable that is initially calculated for the current year is negative (i.e., the result is a tax loss), and none of those losses can be used up in other parts of the business, then the levered tax payable position is zero, as follows.

$$T_L = \text{MAX}(tP, 0)$$

where: T_L is the levered tax payable,

P is taxable income, after deducting interest on the regulatory asset base,
and

t is the corporate tax rate (i.e., 33%).

- 176 In this case, the tax losses would be carried forward to the next year, and added to the tax losses brought forward from the previous year (if any). Consequently, the regulatory tax allowance would simply be equal to the interest tax shield (i.e., zero plus the interest tax shield).

$$T_R = \text{MAX}(tP, 0) + i_S$$

where: T_R is the regulatory tax allowance, and

i_S is the interest tax shield which equals tk_dLA , where k_d is the current interest rate on debt capital, L is the leverage ratio, and A is the regulatory asset base value.

- 177 On the other hand, if all the losses generated in the current year could be immediately used by other parts of the business which are making a net profit, then the levered tax payable amount would remain negative, and would not need to be rounded up to zero. The regulatory tax allowance would be that amount plus the interest tax shield. (Depending on the relative magnitude of the levered tax payable and the interest tax shield, the regulatory tax allowance could also be a negative value, reflecting the immediate benefit to the lines business of utilising tax losses in the current year).

$$T_R = T_L + i_S = tP + i_S$$

- 178 Finally, if there were losses brought forward from the previous year, and these could also be all used that year, then the appropriate levered tax payable amount would be the (negative) levered tax payable amount, less the losses brought forward. The interest tax shield would then be added to this lower amount to give the regulatory tax allowance.⁴⁹

⁴⁹ In the excess returns analysis undertaken for the Gas Control Inquiry, it was found that, for one of the gas pipeline businesses, the forecast tax losses arising within the analysis period could not be used until after that assessment period. In that case, the estimated value of using those tax losses in the future was discounted back from the year in which they were expected to be used (sometime after the assessment period) to the year in which they arose (during the assessment period). Ignoring the future value of those tax losses to the gas pipeline business would also ignore that the benefits associated with using those losses should be shared with the consumers of the services that gave rise to those losses (paragraph 173). This was an important consideration in the Gas Control Inquiry, because the decision-making framework related to an unregulated industry, rather than one in which regulatory instruments are already in place (paragraph 87). For the purposes of the building blocks analysis undertaken as part of a post-breach inquiry of an electricity lines business, the Commission considers that it is reasonable—in the first instance—to ignore any benefits that may arise from tax losses that could be used outside the analysis period. Doing so is favourable to the lines business concerned, because it understates the benefits of control to consumers. The associated assumption is that these losses could be taken into account by the

$$T_R = tP - F + i_S$$

where: F are the losses brought forward.

- 179 Therefore, the regulatory tax allowance is always equal to the interest tax shield plus levered tax payable, after adjusting for losses that can be utilised in the current year.⁵⁰ The general expression relating regulatory tax allowance to taxable income is therefore as follows.

$$T_R = tP - F + a + i_S$$

where: a is an adjustment reflecting the losses that cannot be utilised in the current year (whether these are losses brought forward from the previous year or losses generated in the current year).

Revaluation Gains

- 180 The use in the building blocks analysis of a nominal rather than a real WACC, and of an indexed asset base rather than an un-indexed asset base, has implications for the way that the factual revenue is calculated. If a real WACC is used, then the business can be compensated for the impact of inflation—either economy-wide or more sector-specific—by indexing the regulatory asset base. Alternatively, if the regulatory asset base is un-indexed, then the business can be compensated for inflation by the use of a nominal WACC.
- 181 The Commission’s building blocks model applies a nominal WACC (paragraph 143)—for consistency with its work in other sectors—to an indexed regulatory asset base (paragraph 129), because an indexed asset value will more accurately reflect the efficient value or “fair value” of the regulated assets. The combination of these two approaches effectively double-counts the compensation provided to a lines business for the impact of inflation. As a result, any revaluation gains (or losses) that arise from the indexation of the regulatory asset base must be subtracted from allowable regulatory income to ensure that the business does not over-recover its cost of capital. Given the complexity of determining a robust sector-specific inflation index, the Commission assumes in the building blocks analysis that the indexation of the regulatory asset base is equivalent to the CPI.
- 182 Consequently, any revaluation gains due to the CPI are subtracted from the other efficient building blocks that comprise the factual, in order to determine the allowable income from all regulated activities. This allowable regulated revenue under control can then be compared with the revenue that the lines business receives from the regulated activities of the lines business (i.e., the counterfactual revenue).

regulator when they are actually used during the subsequent period, and the benefits would be realised by consumers at that time.

⁵⁰ In situations where not all the tax losses can be utilised, the regulatory tax allowance (i.e., the levered tax payable, after adjusting for losses that can be utilised, plus the interest tax shield) is not necessarily equivalent to the *unlevered* tax amount. However, the regulatory tax allowance is still consistent with the inclusion of the full interest tax deduction term in the post-tax WACC formula.

Determining Revenues under the Counterfactual

Revenue

- 183 An important distinction between the factual and the counterfactual is that the former is generally predicated on efficient prices whereas the latter is the Commission's assessment of lines business activities in the absence of control. Prices for regulated distribution and transmission services used to derive counterfactual revenue will therefore reflect the lines business's own revenue projections. (However, as mentioned above, the Commission may also use the business's own cost projections in developing the factual—at least in the first instance).
- 184 Revenue in the counterfactual comprises all income associated with ring-fenced lines business activities (i.e., the provision of monopoly distribution and transmission services by the business) in the absence of control. Revenue in the counterfactual therefore includes:
- line charge revenue, excluding revenue intended to cover transmission charges set by a third-party (i.e., Transpower), if corresponding transmission costs are also excluded from expenses in the factual;⁵¹
 - income from capital contributions—both cash contributions and the net value of gifted assets (paragraphs 185-186); and
 - any other income from regulated activities.

Capital contributions

- 185 Capital contributions from consumers are treated as income in determining counterfactual revenues. To do otherwise would mean that consumers are essentially paying twice for the assets to which they have contributed. Capital contributions generally take two forms, namely cash contributions and gifted (or vested) assets. In the case of cash contributions the consumer provides a contribution of cash for connection but the lines business undertakes the construction.
- 186 In other cases, such as subdivision developments, the property developer constructs the final length of the electricity connection, and then gifts the assets to the lines business (to which the business may make some contribution, which would be treated as an expense). The gifted assets should be included as additions to the regulatory asset base (paragraph 127).

Determining the Net Benefits of Control

Benefits of control

- 187 As discussed above (paragraph 104), the benefits of control arise from reducing excess returns, the tax effects of price changes, as well as possible allocative, dynamic and

⁵¹ The total costs excluded should be all transmission charges whether positive or negative (i.e., AC loss-rental rebates). However, if not all AC loss-rental rebates are passed through to consumers, the net amount between rebates received from Transpower and passed on to consumers would need to be taken into account as a distinct revenue item.

productive efficiency gains. It is assumed that under a price cap regime all the excess returns would be able to be transferred to consumers.⁵²

Determining transfers to consumers

- 188 The transfers to consumers from imposing control are estimated by determining the excess returns. The excess returns (ER_t) in each year are found by subtracting each of the factual building blocks from the counterfactual revenues (R_c) as follows.⁵³

$$ER = R_c - (A_f \times WACC + D_f + O_f + T_c - G_f)$$

- 189 If there were no excess returns, then the actual revenue from regulated activities in the counterfactual would equal allowable revenue from regulated activities in the factual, as shown in Table 1 below.

Table 1: Comparison of the Factual with the Counterfactual

Factual	Counterfactual
Regulatory Asset Base \times WACC [†]	Line Charge Revenue
+ Depreciation of Regulatory Asset Base	+ Capital Contributions (cash & gifted assets)
+ Operating Costs	+ Other Revenue from Regulated Activities
+ Regulatory Tax Allowance	
- Revaluation Gains [†]	
= Allowable Revenue from Regulated Activities	= Actual Revenue from Regulated Activities

[†] As noted above (paragraphs 180-182), the use of a nominal WACC with an indexed asset base requires revaluation gains associated with the indexation to be netted out of the allowable revenue from regulated activities.

Tax effect of control

- 190 Because a reduction in the excess returns under control will reduce lines business revenue, it will also reduce the business's tax obligations under control. Consequently, the controlled lines business should be able to further reduce its revenue by an amount equivalent to the reduction in tax payable due to control, and this reduction in revenue should also flow through to consumers in terms of lower prices.
- 191 Combining the direct reduction in excess returns with this indirect tax effect of control produces an overall benefit to consumers associated with reducing excess returns that can be considered "excess revenue".

$$R_c - R_f = ER + (T_c - T_f)$$

⁵² For the purposes of the analysis of Unison, the Commission did not consider it necessary to estimate any efficiency gains arising from the imposition of control because of the significant benefits that would arise from transfers to consumers. As a result, the analysis in this respect is conservative in favour of Unison.

⁵³ The exception is the tax term, which relates to tax payable associated with the counterfactual (T_c) rather than the factual (T_f). The higher (or lower) revenue in the counterfactual results in a higher (or lower) tax payable amount than in the factual. The tax payable associated with counterfactual revenues is used to determine the excess returns the lines business receives under the counterfactual.

- 192 The magnitude of the indirect tax effect of control (i.e., $T_c - T_f$) can be significant. Where tax depreciation and operating expenditure under the factual and counterfactual are assumed to be the same (which is the case in this analysis where estimates of efficient operating expenditure have not been made), then—in the absence of tax losses—the tax effect of control will be equivalent to the corporate tax rate multiplied by the difference in revenue between the factual and the counterfactual. Under such assumptions, the tax effect will be approximately one-third of the revenue difference, and therefore around one-third of the potential price reduction resulting from control. Hence, the relationship between the excess revenue recovered by the business, and the excess returns made by the business will be as follows.

$$R_c - R_f \cong \frac{1}{(1-t)} ER = \frac{ER}{0.67}$$

Direct costs of control

- 193 The Commission has assumed that the direct costs of a form of price cap regulation are indicative of the costs associated with a control regime. Under price cap regulation the direct costs of control for all parties occur largely at the time of price reviews and price-resetting. At these times, the costs may be substantial. At other times, the regulatory body largely has a monitoring role, while the regulated entity must ensure that compliance is maintained. Users may also engage in monitoring activity. For the purposes of calculating the direct costs associated with the control regime the Commission has assumed an initial authorisation review followed by four years of control, consistent with the period for control allowed under Part 4A of the Commerce Act.
- 194 The counterfactual costs are assumed to be those already incurred under the Part 4A regime. The incremental direct costs of control, therefore, are those that would be incurred over and above the costs associated with the Part 4A regime. These include the costs of determining the form of control, which would be a one-off cost, and the cost of implementing/complying with control, which would be an ongoing cost (paragraphs 247-249).

Indirect costs of control

- 195 The Commission has also considered the indirect costs of imposing control. In the Commission's view these could potentially arise because:
- while control would reduce prices toward the workably competitive level, it would be unlikely to be able to exactly replicate efficient prices; and
 - control could risk impacting productive or dynamic efficiency if incentives to reduce costs are weakened because the business gets to keep a smaller share of the benefits arising from those efficiency gains.
- 196 As explained in the Guidelines, the indirect costs associated with regulation are difficult to quantify, and any approach to measuring indirect costs can be done, at best, only on an arbitrary basis. One approach that the Commission has used previously (i.e., as part of the Airports Control Inquiry and the Gas Control Inquiry) is to assess indirect costs by scaling down the estimate of the benefits that control seeks to obtain.

- 197 The Commission notes, however, that these inquiries were dealing with unregulated industries facing the threat of a new, but unknown, regulatory regime. The situation for electricity lines businesses is somewhat different given that a regulatory regime is already in place under Part 4A of the Act.
- 198 In addition, the indirect costs of control may, in the Commission's view, be offset to some extent by the potential indirect benefits of control; for example, enhancing the credibility or predictability of the regime. While some aspects of the Part 4A regime have not yet been utilised, the Commission's final decision whether to declare control on Unison is likely to improve regulatory certainty for the industry as a whole.

Net benefits of control

- 199 The difference between benefits and costs over the relevant analysis period is discounted by the WACC to provide the net present value of net benefits of control. This value can be annualised to provide an annuity estimate of the net benefits of control.

UNISON'S RECENT PERFORMANCE

200 This section summarises the Commission's analysis of Unison's recent performance, focusing on the two financial years during which Unison has breached the price path threshold—namely 2003/04 and 2004/05. The analysis presented in this section has been undertaken using data of Unison's actual performance for those years, whereas the net benefits analysis in the following section utilises budgeted data for 2004/05, for reasons explained later (paragraph 231).

Assessment of Unison's Return on Investment

Unison's price increases

- 201 As noted earlier (paragraph 45-46), Unison breached the initial price path threshold at the first assessment date, primarily as a result of line charge increases to electricity consumers in the Hawke's Bay region in April 2002—prior to the company's acquisition of the Rotorua and Taupo networks. The second breach of the initial price path threshold was primarily caused by price increases across all three networks on 1 March 2004 (as was the subsequent breach of the reset threshold on 31 March 2005).
- 202 The Commission notes Unison's claims that its price increases in 2002 and 2004 were consistent with the Purpose Statement and that it has not been earning excessive profits (paragraphs 51-52). To test these claims the Commission has carried out an analysis of Unison's return on investment (ROI) for the 2003/04 year (i.e., the year ending 31 March 2004), in order to determine if Unison's returns had been at a sufficiently low level to justify breaching the price path threshold, and increasing its prices in March 2004.

Data sources for 2003/04 financial year

- 203 The analysis of Unison's ROI for 2003/04 is presented in Table 2.⁵⁴ Most of the 2004 data in the table is sourced from information contained in Unison's administrative settlement offer (paragraph 71) concerning its actual performance for that year—namely: revenue components and total revenue; operating expense; depreciation components and total depreciation; tax depreciation; non-taxable capital contributions; deductible renewal expensed; and tax deductible rebates to consumer owners.
- 204 The regulatory asset base value is the sum of the closing value for system fixed assets for that year and the average value for non-system fixed assets, also provided by Unison as part of the offer. As described earlier (paragraphs 131-132), the valuation for system fixed assets (and for the regulatory asset base) used by the Commission is generally an average value, excluding revaluation gains or losses arising during the course of the year, rather than the closing value.
- 205 However, Unison carried out an ODV valuation of its system fixed assets as at 31 March 2004 according to the ODV Handbook issued by the Commission on 30 August 2004. That valuation was about 27% higher than Unison's ODV valuation for the financial year ending 31 March 2003, reflecting the fact that the standard

⁵⁴ The calculation of the regulatory tax allowance is presented at the end of the table, in accordance with the expression presented in paragraph 179. A similar format is used in many subsequent tables.

replacement costs in the prior ODV Handbook, issued by MED, had not been updated since 1994. In dollar terms the revaluation added another \$55.4 million to the disclosed value of Unison's system fixed assets for 2002/03 which was \$223 million.

- 206 The \$55 million of revaluation gains for 2003/04 primarily arose because the Commission updated the standard replacement costs (and multipliers) for system fixed assets by issuing its 2004 ODV Handbook. In the Commission's view, it is appropriate to spread these revaluation gains over the period to which they are attributable, namely 1994 to 2004. This approach is conservative in Unison's favour as it does not attribute the entire revaluation uplift due to the updated replacement costs to the ROI in any single year.
- 207 Consequently, the average of the disclosed opening and closing regulatory asset base net of the entire revaluation gains (i.e., \$236 million, which includes lines business non-system fixed assets) is not a good indicator of the value of regulated assets during the course of 2003/04. Instead, the Commission has approximated the 2003/04 opening system fixed assets value by adding back depreciation and subtracting additions from the 2003/04 closing system fixed assets value, and deflating by an assumed CPI of 2.5%, giving \$272 million (which excludes the non-system fixed assets). The opening system fixed assets value for 2003/04 is equivalent to the closing value for 2002/03.
- 208 As a proxy for the amount of revaluation gains attributable to the 2003/04 year (paragraph 181), the Commission assumes a CPI of 2.5% applied to an estimate of the previous year's closing system fixed assets value. Therefore, the estimate for the revaluation gains to be included in the numerator of the ROI for 2003/04 is \$6.8 million (i.e., 2.5% of the opening system fixed assets valuation of \$272 million). Consequently, the estimated regulatory asset base value for 2003/04 is equal to the average of the estimated opening value (i.e., \$282 million, including non-system fixed assets) and the closing value (i.e. \$295 million) less the estimated revaluation gains (i.e. \$6.8 million). The regulatory asset base value is therefore \$285 million, as shown in Table 2.
- 209 The regulatory tax allowance has been calculated in accordance with the approach described earlier (paragraphs 153-179) with the interest tax shield found from the tax effect of applying the assumed efficient leverage ratio to the regulatory asset base value (paragraph 160).

ROI for 2003/04 financial year

- 210 Unison's regulatory ROI for the 2003/04 year is assessed to be 10.6%. This ROI is compared to a WACC of 6.8% applicable to that year, calculated in accordance with the Commission's methodology described earlier (paragraphs 142-148).⁵⁵
- 211 The financial data for 2003/04 contains one month's revenue at increased line charges (given the price increase on 1 March 2004). This somewhat overstates the level of returns that were being received by Unison for 2003/04 prior to that price increase. However, for the purposes of the ROI assessment it is considered that, while this additional month's revenue has been taken into account in the ROI calculation, the

⁵⁵ This calculation is based on a risk free rate as at April 2003 of 5.5%, but with the other parameters as described in paragraph 148.

overall impact of this increase in revenue for a one month period is unlikely to have a significant impact on the estimated ROI value.

- 212 As a result of this analysis, the Commission considers that Unison's profits were already significantly in excess of those envisaged by the regulatory regime. Consequently, the Commission's preliminary view is that Unison's 1 March 2004 price increases were not justifiable.

Data sources for 2004/05 financial year

- 213 This preliminary conclusion is reinforced by examining the impact of the March 2004 price increases, which were not fully realised until the 2004/05 year (i.e., the year ending 31 March 2005).
- 214 Unison's settlement offer was provided to the Commission before the end of the 2004/05 financial year. As a result, the offer only included budgeted values for 2004/05 (and these budgeted values have been used in the Commission's scenarios described later; paragraphs 224-240).
- 215 Therefore, the Commission has sourced most of the 2004/05 data in Table 2 from information contained in Unison's gazetted disclosures (paragraph 67)—namely: total regulated revenue; operating expense; depreciation components and total depreciation; regulatory asset base (in this case the average of opening and closing values excluding revaluation gains); and tax deductible rebates to consumer owners.
- 216 Although there are no disclosed revaluation gains for 2004/05, the Commission has included estimated revaluation gains of \$7.1 million in the numerator of the ROI, to reflect a CPI of 2.5% applied to the closing system fixed assets value for 2003/04 (i.e., \$285 million).
- 217 The tax depreciation entry for 2004/05 is the sum of disclosed accounting depreciation, and permanent and timing differences, reflecting an approximation of the combined effect of tax depreciation with other deductibles (except operating expense, rebates and interest). Otherwise, the regulatory tax allowance has been calculated in the same way as for 2003/04.

ROI for 2004/05 financial year

- 218 As a result, Unison's regulatory ROI for the 2004/05 year is therefore assessed to be 12.7%, even higher than the level of returns for 2003/04. This ROI is compared to a WACC of 6.95% applicable to the year.⁵⁶ This result confirms the Commission's preliminary view that Unison is currently earning excessive profits and that the March 2004 price increases were not justified.

⁵⁶ The relevant risk free rate in this case was as at April 2004, which was 5.7%.

Table 2: Unison's Return on Investment (ROI) for 2003/04 and 2004/05

2004 ROI For the Financial Year ending 31 st March	2004** Actuals (\$000s)	2005*** Actuals (\$000s)
Revenue		
<i>Revenue - Line Charge</i>	49,298	
<i>Revenue - Capital Contribution</i>	5,061	
Total Regulatory Revenue (A)	54,359	70,081
Operating Expense (B)	15,662	18,175
Depreciation		
<i>System Fixed Asset Depreciation</i>	11,107	11,187
<i>Non System Fixed Asset Depreciation</i>	1,160	1,561
Total Regulatory Depreciation (C)	12,267	12,748
Regulatory Tax Allowance* (D)	3,057	8,792
Net Earnings (A-B-C-D)	23,373	30,366
Revaluation Gains	6,800	7,126
Net Earnings After Revaluation Gains (E)	30,173	37,492
Regulatory Asset Base (F)	285,482	295,696
Regulatory Return on Investment (E/F)	10.57%	12.68%
* Calculation of Regulatory Tax Allowance		
<i>Total regulatory revenue</i>	54,359	70,081
<i>less tax depreciation</i>	21,181	25,263
<i>less non-taxable capital contributions</i>	4,808	
<i>less deductible renewals expensed</i>	3,408	
<i>less operating expense</i>	15,662	18,175
<i>less tax deductible rebates</i>	35	0
<i>less interest on RAB</i>	7,662	8,186
Taxable Income	1,603	18,457
<i>Tax (0.33 * Taxable Income)</i>	529	6,091
<i>less losses brought forward</i>	0	0
<i>tax after losses</i>	529	6,091
<i>adjustment for unused losses</i>	0	0
Levered Tax Payable	529	6,091
<i>add back interest tax shield</i>	2,528	2,701
Regulatory Tax Allowance (D)	3,057	8,792

** Data sourced from the Administrative Settlement Offer

*** Data sourced from 2005 Gazette

Relative Performance of Hawke's Bay, Rotorua and Taupo Networks

- 219 As noted above (paragraph 39), Unison is a trust-owned lines business where the beneficiaries of the HBPCT are the electricity consumers connected to the Hawke's Bay network, and not those connected to the Rotorua and Taupo networks. The Commission does not have a concern with distribution businesses earning a reasonable return on behalf of their consumer owners and providing distributions to those owners. However, the Commission would be concerned if pricing and/or investment decisions are weighted in favour of consumer owners to the detriment of the other consumers supplied by the business.
- 220 The Commission has analysed 2003/04 data for the three distinct Hawke's Bay, Rotorua and Taupo networks, as provided by Unison in its administrative settlement offer and in responses to the Commission's requests for information (paragraphs 64 and 68).
- 221 This analysis, presented in Table 3, has revealed that the estimated ROIs on Taupo and Rotorua assets for 2003/04 were significantly higher than the ROI on Hawke's Bay assets. Table 3 shows the estimated split between the Taupo/Rotorua networks and the Hawke's Bay network. In most cases disaggregated network information—such as revenue, direct operating expense, capital contributions and tax depreciation—is sourced from Unison's s 98 responses, and the derived values have been calculated in accordance with the methodologies described earlier. The indirect operating expense for each network has been derived from the percentage of connections attributed to Taupo/Rotorua and Hawke's Bay in the 2003/04 disaggregated data provided as part of Unison's settlement offer.
- 222 The aggregate information is obtained from Unison's settlement offer, and is consistent with the values and calculations presented in Table 2.
- 223 Using the Commission's approach, 2003/04 returns on Taupo/Rotorua network were nearly three times greater than the returns on the Hawke's Bay network. The next section also examines the relative expected contribution to Unison's returns from each of the Rotorua and Taupo networks separately, rather than just Rotorua/Taupo combined. This later analysis (paragraphs 260-271) indicates that the returns received from Taupo consumers are likely to be higher than those for Rotorua, with both the Rotorua and Taupo returns higher than Hawke's Bay.

Table 3: ROI Comparison of Unison's Acquired Taupo/Rotorua Networks and Hawke's Bay Network (as at 31 March 2004)⁵⁷

For the Financial Year ending 31 st March 2004	Taupo/ Rotorua	Hawkes Bay	Total
	(\$000s)	(\$000s)	(\$000s)
Revenue			
Revenue - Line Charge**	24,923	24,376	\$49,298
Revenue - Capital Contribution**	2,401	2,660	\$5,061
Total Regulatory Revenue (A)	27,323	27,035	\$54,359
Operating Expense (B)***	5,399	10,263	\$15,662
Depreciation			
System Fixed Asset Depreciation***	4,154	6,953	\$11,107
Non System Fixed Asset Depreciation***	383	777	\$1,160
Total Regulatory Depreciation (C)	4,538	7,729	\$12,267
Regulatory Tax Allowance* (D)	1,145	1,913	\$3,057
Net Earnings (A-B-C-D)	16,242	7,130	\$23,373
Revaluation Gains	2,544	4,257	\$6,800
Net Earnings After Revaluation Gains (E)	18,786	11,386	\$30,173
Regulatory Asset Base (F)	110,040	185,363	\$285,482
Regulatory Return on Investment (E/F)	17.07%	6.14%	10.57%
* Calculation of Regulatory Tax Allowance			
Total regulatory revenue	27,323	27,035	54,359
less tax depreciation	15,079	6,102	21,181
less non-taxable capital contributions	2,281	2,527	4,808
less deductible renewals expensed	1,096	2,312	3,408
less operating expense	5,399	10,263	15,662
less tax deductible rebates	0	35	35
less interest on RAB	2,953	4,975	7,928
Taxable Income	515	822	1,337
Tax (0.33 * Taxable Income)	170	271	441
less losses brought forward	0	0	0
tax after losses	170	271	441
adjustment for unused losses	0	0	0
Levered Tax Payable	170	271	441
add back interest tax shield	975	1,642	2,616
Regulatory Tax Allowance (D)	1,145	1,913	3,057

** Unison's s98 response

*** Allocated and actual from s98 response & settlement offer

**** Based on disaggregated System Fixed Assets' ODV as at 31 March 2004,

total System Fixed Assets at notional average ODV and allocated average Non System Fixed Assets

⁵⁷

Disaggregated operating expenditure data submitted by Unison under the s 98 notice and the aggregate data included in Unison's administrative settlement offer have some non-material differences.

NET BENEFITS OF CONTROL OF UNISON

224 This section summarises the analysis of the net benefits of control of Unison undertaken by the Commission. The analysis is based on two different scenarios reflecting information available about Unison's planned performance at two different times—before and after Unison's increased exposure to a credible threat of control. In addition, the analysis is extended to include sensitivity analyses and an assessment of the relative returns going forward for each of Unison's Hawke's Bay, Rotorua and Taupo networks in the absence of control. (The specification of the model used by the Commission is presented in the Appendix).

225 The section is structured as follows:

- a description and comparison of the two scenarios for which both a factual and a counterfactual have been derived;
- a net benefits analysis of controlling Unison from 2006-2010;
- sensitivity analyses of the results to WACC and the CPI;
- a disaggregated analysis for each of Unison's Hawke's Bay, Rotorua and Taupo networks from 2006-2010, including
 - a return on investment (ROI) analysis,
 - an excess returns and net benefits of control analysis,
 - a sensitivity analyses of the ROI results to WACC and the CPI, and
 - an analysis of the possible pricing impact of control.

Scenarios for the Net Benefits Analysis

Counterfactual

226 As described above, the net benefits analysis involves comparing the revenues that would be obtained in the absence of control (the counterfactual) with those that would be obtained under control (the factual). This is a comparison between two hypothetical situations. In constructing the counterfactual the Commission must make some judgements about what the likely behaviour of Unison would be without control.

227 The Commission has used Unison's own revenue projections provided on two different occasions to construct two counterfactuals for the purpose of its assessment of excess returns. The initial position was determined primarily from the information provided by Unison in explaining its breaches (March 2004) and in response to the initial s 98 notices (paragraph 66). The second position (February 2005) was provided as part of an administrative settlement offer proposed by Unison.

228 It is considered that neither price path necessarily reflects a true 'counterfactual' position. The initial position incorporates earlier information which is unlikely to be indicative of Unison's current position given events that have subsequently occurred. However, despite these subsequent changes, in the Commission's view the first scenario is likely to be more indicative of Unison's actual behaviour in the absence of control, as it represents the views of Unison's Board as reflected in the company's Statement of Corporate Intent, prior to the initiation of the Commission's post-breach inquiry.

- 229 The second position was clearly influenced by the prospect that Unison's prices might be controlled and is therefore not likely to be truly indicative of the company's returns "in the absence of control". This is particularly the case given that Unison has subsequently suspended price increases for 2005 (paragraph 67).
- 230 The Commission has accordingly adopted a pragmatic approach, as envisaged in the Guidelines, in determining its counterfactual position. It considers the two price paths would likely represent the upper and lower bounds of the range within which the true counterfactual would fall. Accordingly the Commission has analysed the two positions separately as two scenarios. Scenario 1 and Scenario 2 represent the positions based on the earlier Unison data and on the February 2005 Unison settlement offer, respectively.
- 231 Both scenarios included budgeted values for the 2004/05 (2005) financial year. These budgeted values have since been superseded by the actual results, which have been analysed in the previous section. 2005 values are not included in the analysis of net benefits of control, as this is a forward-looking analysis over the 2006-2010 period. However, they are included in the tables in this section to provide a comparison with the projections used under each scenario. To retain consistency with the assumptions inherent in each scenario and the trends inherent in the forecasts, the budgeted 2005 values relevant to each scenario are presented, rather than the actual 2005 values. Given the significantly different assumptions underlying the two scenarios, the 2005 budgeted values in each scenario are also significantly different from each other.

Factual

- 232 For the purposes of its intention to declare control, the Commission did not attempt to establish efficient costs for Unison. Instead, the Commission used the cost data provided by the company, which is likely to overstate efficient costs. As noted above (paragraph 105), because the use of efficient costs would likely only increase the Commission's assessment of the net benefits of control, the Commission may be able to form an intention to declare control on the basis of prices derived from the business's forecast operating and capital costs, rather than using the Commission's estimates of future efficient costs. Such has been the case for Unison.
- 233 As noted above, the two counterfactual scenarios are based on different cost assumptions. This has necessitated the construction of two corresponding internally consistent factual scenarios (although the CPI used in both scenarios is 2.5%). As is the case with the counterfactuals, the Commission considers that neither position reflects a price path that could be considered to reflect a true 'factual' position. It is likely that a factual price path based on efficient costs may lie well below both of the factual price paths the Commission has constructed, given that both are based on Unison's forecast data rather than estimates of efficient costs. Because higher prices in the factual will result in lower net benefits of control, this suggests the analysis is likely to be conservative in favour of Unison.

Scenario 1

- 234 Scenario 1 is based on Unison's system fixed assets valuation as at 31 March 2003 carried out by PricewaterhouseCoopers on a "fair value" basis in accordance with Financial Reporting Standard No. 3. At that time the replacement costs in the ODV Handbook had not been updated since 1994. Fair value was considered to be a better

indicator of the current allowable replacement costs. No adjustment has been made to reflect the costs in the Commission's ODV Handbook issued in 2004 because this would have disturbed the internal consistency of the data. In any event, fair value would provide a reasonable approximation to that value that would have been found from using the ODV Handbook.

- 235 In its own modelling, Unison targeted a return on investment of 9.42%, excluding the revenue impact of revaluation gains. This target ROI was consistent with its 2004/05 Statement of Corporate Intent.
- 236 The Commission used a conservative approach to construct its counterfactual using Unison's unadjusted data. The Commission's counterfactual scenario is shown in Table 4, with budgeted results shown for 2005. Based on the same data the Commission constructed its factual using the building blocks approach as earlier set out in this paper. The factual scenario is shown in Table 5. Table 6 presents the derivation of the regulatory asset base value used in the counterfactual and factual of Scenario 1. Table 7 presents the present value (PV) results of the excess returns and excess revenue analysis in 2005 dollars for Scenario 1.

Table 4: Scenario 1 - Counterfactual

Counterfactual Scenario 1	2005	2006	2007	2008	2009	2010
For the Financial Year ending 31 st March	Unison Budgeted (\$000s)	Unison Forecast (\$000s)	Unison Forecast (\$000s)	Unison Forecast (\$000s)	Unison Forecast (\$000s)	Unison Forecast (\$000s)
Revenue						
Revenue - Line Charge	58,658	62,697	68,706	73,055	75,665	77,419
Revenue - Capital Contribution	9,105	4,970	5,142	4,827	5,012	5,204
Total Regulatory Revenue (A)	67,763	67,667	73,848	77,882	80,677	82,623
Operating Expense (B)	16,948	16,896	17,170	17,164	17,447	17,795
Depreciation						
System Fixed Asset Depreciation	11,029	11,773	12,572	13,392	14,211	15,030
Non System Fixed Asset Depreciation	1,271	1,479	1,502	1,526	1,551	1,578
Total Regulatory Depreciation (C)	12,300	13,251	14,074	14,918	15,762	16,607
Regulatory Tax Allowance* (D)	3,002	5,952	7,497	8,810	9,608	10,353
Net Earnings (A-B-C-D)	35,513	31,567	35,107	36,990	37,859	37,868
Revaluation Gains	7,077	7,522	7,990	8,510	8,961	9,412
Net Earnings After Revaluation Gains (E)	42,590	39,089	43,097	45,500	46,820	47,280
Regulatory Asset Base (F)	300,107	319,612	339,325	358,687	376,723	393,441
Regulatory Return on Investment (E/F)	14.19%	12.23%	12.70%	12.69%	12.43%	12.02%
* Calculation of Regulatory Tax Allowance						
Total regulatory revenue	67,763	67,667	73,848	77,882	80,677	82,623
less tax depreciation	22,347	22,295	22,194	22,216	21,999	21,825
less non-taxable capital contributions	8,564	3,976	4,114	3,862	4,010	4,163
less deductible renewals expensed	4,159	3,486	4,642	4,900	5,028	4,355
less operating expense	16,948	16,896	17,170	17,164	17,447	17,795
less tax deductible rebates	2,941	2,976	3,011	3,044	3,078	3,111
less interest on RAB	8,308	9,597	10,189	10,771	11,312	11,814
Taxable Income	4,495	8,439	12,528	15,926	17,803	19,560
Tax (0.33 * Taxable Income)	1,483	2,785	4,134	5,255	5,875	6,455
less losses brought forward	1,223	0	0	0	0	0
tax after losses	261	2,785	4,134	5,255	5,875	6,455
adjustment for unused losses	0	0	0	0	0	0
Levered Tax Payable	261	2,785	4,134	5,255	5,875	6,455
add back interest tax shield	2,742	3,167	3,363	3,554	3,733	3,899
Regulatory Tax Allowance (D)	3,002	5,952	7,497	8,810	9,608	10,353

Table 5: Scenario 1 - Factual

Factual Scenario 1	2005	2006	2007	2008	2009	2010
For the Financial Year ending 31 st March	Unison Budgeted (\$000s)	Commission Forecast (\$000s)	Commission Forecast (\$000s)	Commission Forecast (\$000s)	Commission Forecast (\$000s)	Commission Forecast (\$000s)
Revenue						
Revenue - Line Charge	58,658	44,306	46,406	48,653	50,648	52,592
Revenue - Capital Contribution	9,105	4,970	5,142	4,827	5,012	5,204
Total Regulatory Revenue (A)	67,763	49,276	51,548	53,481	55,660	57,796
Operating Expense (B)	16,948	16,896	17,170	17,164	17,447	17,795
Depreciation						
System Fixed Asset Depreciation	11,029	11,773	12,572	13,392	14,211	15,030
Non System Fixed Asset Depreciation	1,271	1,479	1,502	1,526	1,551	1,578
Total Regulatory Depreciation (C)	12,300	13,251	14,074	14,918	15,762	16,607
Regulatory Tax Allowance* (D)	3,002	3,167	3,363	3,554	3,733	3,899
Net Earnings (A-B-C-D)	35,513	15,961	16,942	17,844	18,718	19,495
Revaluation Gains	7,077	7,522	7,990	8,510	8,961	9,412
Net Earnings After Revaluation Gains (E)	42,590	23,483	24,931	26,354	27,679	28,908
Regulatory Asset Base (F)	300,107	319,612	339,325	358,687	376,723	393,441
Regulatory Return on Investment (E/F)	14.19%	7.35%	7.35%	7.35%	7.35%	7.35%
* Calculation of Regulatory Tax Allowance						
Total regulatory revenue	67,763	49,276	51,548	53,481	55,660	57,796
less tax depreciation	22,347	22,295	22,194	22,216	21,999	21,825
less non-taxable capital contributions	8,564	3,976	4,114	3,862	4,010	4,163
less deductible renewals expensed	4,159	3,486	4,642	4,900	5,028	4,355
less operating expense	16,948	16,896	17,170	17,164	17,447	17,795
less tax deductible rebates	2,941	2,976	3,011	3,044	3,078	3,111
less interest on RAB	8,308	9,597	10,189	10,771	11,312	11,814
Taxable Income	4,495	-9,951	-9,772	-8,476	-7,213	-5,267
Tax (0.33 * Taxable Income)	1,483	-3,284	-3,225	-2,797	-2,380	-1,738
less losses brought forward	1,223	0	3,284	6,509	9,306	11,686
tax after losses	261	-3,284	-6,509	-9,306	-11,686	-13,424
adjustment for unused losses	0	3,284	6,509	9,306	11,686	13,424
Levered Tax Payable	261	0	0	0	0	0
add back interest tax shield	2,742	3,167	3,363	3,554	3,733	3,899
Regulatory Tax Allowance (D)	3,002	3,167	3,363	3,554	3,733	3,899

Table 6: Scenario 1 – Regulatory Asset Base

Scenario 1	2005	2006	2007	2008	2009	2010
	\$(000s)	\$(000s)	\$(000s)	\$(000s)	\$(000s)	\$(000s)
System Assets						
Opening book value	283,083	300,876	319,596	340,389	358,438	376,489
Capex & Acquisition	21,745	22,971	25,375	22,932	23,301	21,014
Disposal	-	-	-	-	-	-
depreciation	11,029	11,773	12,572	13,392	14,211	15,030
depreciation on opening asset base with revaluation gains	10,805	11,075	11,352	11,635	11,926	12,225
depreciation on new capex	225	698	1,221	1,757	2,284	2,805
revaluation	7,077	7,522	7,990	8,510	8,961	9,412
Closing book value	300,876	319,596	340,389	358,438	376,489	391,886
Average System fixed asset asset value (A)	291,979	310,236	329,992	349,413	367,464	384,187
Non System Assets						
Opening book value	10,288	13,044	13,230	13,426	13,632	13,847
Capex & Acquisition	4,027	1,665	1,698	1,732	1,767	1,802
depreciation	1,271	1,479	1,502	1,526	1,551	1,578
Closing book value	13,044	13,230	13,426	13,632	13,847	14,071
Average Non System Fixed asset value (B)	11,666	13,137	13,328	13,529	13,740	13,959
Regulatory Asset Base (A+B)-rev/2	300,107	319,612	339,325	358,687	376,723	393,441

Table 7: Scenario 1 - PV and Annuity of Excess Returns and Excess Revenue

Scenario 1	2006 \$(000s)	2007 \$(000s)	2008 \$(000s)	2009 \$(000s)	2010 \$(000s)	Total \$(000s)	PV \$(000s)	Annuity \$(000s)
Line Charge Revenue								
Counterfactual	62,697	68,706	73,055	75,665	77,419			
Factual	44,306	46,406	48,653	50,648	52,592			
Excess Revenue	18,391	22,300	24,402	25,016	24,827	114,935	92,465	22,762
Regulatory Taxation Expense								
Counterfactual	5,952	7,497	8,810	9,608	10,353			
Factual	3,167	3,363	3,554	3,733	3,899			
Tax Effect of Control	2,785	4,134	5,255	5,875	6,455	24,504	19,383	4,771
Net Earnings After Revaluation Gains								
Counterfactual	39,089	43,097	45,500	46,820	47,280			
Factual	23,483	24,931	26,354	27,679	28,908			
Excess Returns	15,606	18,165	19,146	19,141	18,372	90,431	73,082	17,990

Scenario 2

- 237 Unison's settlement offer is based on its 31 March 2004 ODV system fixed asset valuation derived using the Commission's 2004 ODV Handbook. The significant features of the counterfactual position based on the settlement offer data are as follows.
- Unison's settlement offer proposes a price increase of 5.3% in October 2006. This increase is equivalent to the compounded CPI movement from the 2003/04 year. Unison states that beyond this the price increases will not be beyond CPI-X price path relative to notional revenue where X=0%.
 - Unison also states that 2004/05 was an unusual year with a particularly cold winter and a sufficient supply of energy, leading to record consumption in Unison's region of operation. Therefore, Unison's revenue expectation in 2006 is significantly lower than the 2005 forecast. The Commission has insufficient data to assess whether this assumption is appropriate or not.
- 238 The Commission used Unison's unadjusted data except for the removal of a \$614,000 allowance for regulatory control costs that was included in Unison's forecast operating expenditure. The Commission considers that the excess returns analysis should exclude regulatory costs, which are explicitly taken into account in the net benefits analysis.
- 239 Table 8 shows the Commission's counterfactual position. The factual position, using the Commission's building blocks approach, is shown in Table 9. Table 10 presents the derivation of the regulatory asset base value used in the counterfactual and factual of Scenario 2.
- 240 Table 11 presents the present value (PV) results of the excess returns and excess revenue analysis in 2005 dollars for Scenario 2.

Table 8: Scenario 2 - Counterfactual

Counterfactual Scenario 2	2005	2006	2007	2008	2009	2010
For the Financial Year ending 31 st March	Unison Budgeted (\$000s)	Unison Forecast (\$000s)	Unison Forecast (\$000s)	Unison Forecast (\$000s)	Unison Forecast (\$000s)	Unison Forecast (\$000s)
Revenue						
Revenue - Line Charge	62,815	62,537	66,102	68,048	70,021	70,983
Revenue - Capital Contribution	6,388	3,970	3,142	3,077	3,012	2,704
Total Regulatory Revenue (A)	69,203	66,507	69,244	71,125	73,033	73,687
Operating Expense (B)	17,012	18,886	19,470	19,547	19,915	20,350
Depreciation						
System Fixed Asset Depreciation	11,104	11,849	12,651	13,473	14,293	15,114
Non System Fixed Asset Depreciation	1,218	1,485	1,507	1,531	1,556	1,582
Total Regulatory Depreciation (C)	12,322	13,335	14,158	15,004	15,849	16,696
Regulatory Tax Allowance* (D)	7,389	6,677	7,217	7,704	8,218	8,615
Net Earnings (A-B-C-D)	32,480	27,610	28,398	28,871	29,050	28,026
Revaluation Gains	7,126	7,570	8,038	8,557	9,007	9,457
Net Earnings After Revaluation Gains (E)	39,606	35,180	36,435	37,428	38,057	37,483
Regulatory Asset Base (F)	302,057	321,558	341,236	360,561	378,558	395,234
Regulatory Return on Investment (E/F)	13.11%	10.94%	10.68%	10.38%	10.05%	9.48%
* Calculation of Regulatory Tax Allowance						
Total regulatory revenue	69,203	66,507	69,244	71,125	73,033	73,687
less tax depreciation	20,531	20,726	20,747	20,871	20,776	20,713
less non-taxable capital contributions	5,110	3,176	2,514	2,462	2,410	2,163
less deductible renewals expensed	4,159	3,486	4,642	4,900	5,028	4,355
less operating expense	17,012	18,886	19,470	19,547	19,915	20,350
less tax deductible rebates	0	0	0	0	0	0
less interest on RAB	8,362	9,656	10,247	10,827	11,368	11,868
Taxable Income	14,028	10,577	11,624	12,518	13,535	14,237
Tax (0.33 * Taxable Income)	4,629	3,490	3,836	4,131	4,467	4,698
less losses brought forward	0	0	0	0	0	0
tax after losses	4,629	3,490	3,836	4,131	4,467	4,698
adjustment for unused losses	0	0	0	0	0	0
Levered Tax Payable	4,629	3,490	3,836	4,131	4,467	4,698
add back interest tax shield	2,760	3,186	3,381	3,573	3,751	3,917
Regulatory Tax Allowance (D)	7,389	6,677	7,217	7,704	8,218	8,615

Table 9: Scenario 2 - Factual

Factual Scenario 2	2005	2006	2007	2008	2009	2010
For the Financial Year ending 31 st March	Unison Budgeted (\$000s)	Commission Forecast (\$000s)	Commission Forecast (\$000s)	Commission Forecast (\$000s)	Commission Forecast (\$000s)	Commission Forecast (\$000s)
Revenue						
Revenue - Line Charge	62,815	47,493	50,902	52,981	55,311	57,841
Revenue - Capital Contribution	6,388	3,970	3,142	3,077	3,012	2,704
Total Regulatory Revenue (A)	69,203	51,463	54,045	56,059	58,323	60,545
Operating Expense (B)	17,012	18,886	19,470	19,547	19,915	20,350
Depreciation						
System Fixed Asset Depreciation	11,104	11,849	12,651	13,473	14,293	15,114
Non System Fixed Asset Depreciation	1,218	1,485	1,507	1,531	1,556	1,582
Total Regulatory Depreciation (C)	12,322	13,335	14,158	15,004	15,849	16,696
Regulatory Tax Allowance* (D)	7,389	3,186	3,381	3,573	3,751	3,917
Net Earnings (A-B-C-D)	32,480	16,056	17,034	17,935	18,807	19,582
Revaluation Gains	7,126	7,570	8,038	8,557	9,007	9,457
Net Earnings After Revaluation Gains (E)	39,606	23,626	25,072	26,492	27,814	29,039
Regulatory Asset Base (F)	302,057	321,558	341,236	360,561	378,558	395,234
Regulatory Return on Investment (E/F)	13.11%	7.35%	7.35%	7.35%	7.35%	7.35%
* Calculation of Regulatory Tax Allowance						
Total regulatory revenue	69,203	51,463	54,045	56,059	58,323	60,545
less tax depreciation	20,531	20,726	20,747	20,871	20,776	20,713
less non-taxable capital contributions	5,110	3,176	2,514	2,462	2,410	2,163
less deductible renewals expensed	4,159	3,486	4,642	4,900	5,028	4,355
less operating expense	17,012	18,886	19,470	19,547	19,915	20,350
less tax deductible rebates	0	0	0	0	0	0
less interest on RAB	8,362	9,656	10,247	10,827	11,368	11,868
Taxable Income	14,028	-4,467	-3,575	-2,549	-1,175	1,095
Tax (0.33 * Taxable Income)	4,629	-1,474	-1,180	-841	-388	361
less losses brought forward	0	0	1,474	2,654	3,495	3,883
tax after losses	4,629	-1,474	-2,654	-3,495	-3,883	-3,521
adjustment for unused losses	0	1,474	2,654	3,495	3,883	3,521
Levered Tax Payable	4,629	0	0	0	0	0
add back interest tax shield	2,760	3,186	3,381	3,573	3,751	3,917
Regulatory Tax Allowance (D)	7,389	3,186	3,381	3,573	3,751	3,917

Table 10: Scenario 2 – Regulatory Asset Base

Scenario 2	2005	2006	2007	2008	2009	2010
	\$(000s)	\$(000s)	\$(000s)	\$(000s)	\$(000s)	\$(000s)
System Assets						
Opening book value	285,044	302,811	321,503	342,264	360,280	378,295
Capex & Acquisition	21,745	22,971	25,375	22,932	23,301	21,014
Disposal	-	-	-	-	-	-
depreciation	11,104	11,849	12,651	13,473	14,293	15,114
depreciation on original asset base with revaluation gains	10,880	11,152	11,430	11,716	12,009	12,309
Depreciation on Capex with rev gains	225	698	1,221	1,757	2,284	2,805
revaluation	7,126	7,570	8,038	8,557	9,007	9,457
Closing book value	302,811	321,503	342,264	360,280	378,295	393,652
Average System fixed asset asset value (A)	293,927	312,157	331,884	351,272	369,288	385,974
Non System Assets						
Opening book value	10,288	13,097	13,276	13,467	13,668	13,879
Capex & Acquisition	4,027	1,665	1,698	1,732	1,767	1,802
depreciation	1,218	1,485	1,507	1,531	1,556	1,582
Closing book value	13,097	13,276	13,467	13,668	13,879	14,099
Average Non System Fixed asset value (B)	11,693	13,187	13,372	13,568	13,774	13,989
Regulatory Asset Base (A+B)-rev/2	302,057	321,558	341,236	360,561	378,558	395,234

Table 11: Scenario 2 - PV and Annuity of Excess Returns and Excess Revenue

Scenario 2	2006 \$(000s)	2007 \$(000s)	2008 \$(000s)	2009 \$(000s)	2010 \$(000s)	Total \$(000s)	PV \$(000s)	Annuity \$(000s)
Line Charge Revenue								
Counterfactual	62,537	66,102	68,048	70,021	70,983			
Factual	47,493	50,902	52,981	55,311	57,841			
Excess Revenue	15,044	15,199	15,067	14,710	13,142	73,163	59,682	14,691
Regulatory Taxation Expense								
Counterfactual	6,677	7,217	7,704	8,218	8,615			
Factual	3,186	3,381	3,573	3,751	3,917			
Tax Effect of Control	3,490	3,836	4,131	4,467	4,698	20,622	16,579	4,081
Net Earnings After Revaluation Gains								
Counterfactual	35,180	36,435	37,428	38,057	37,483			
Factual	23,626	25,072	26,492	27,814	29,039			
Excess Returns	11,554	11,363	10,936	10,243	8,444	52,540	43,102	10,610

Comparative analysis of Scenarios 1 and 2

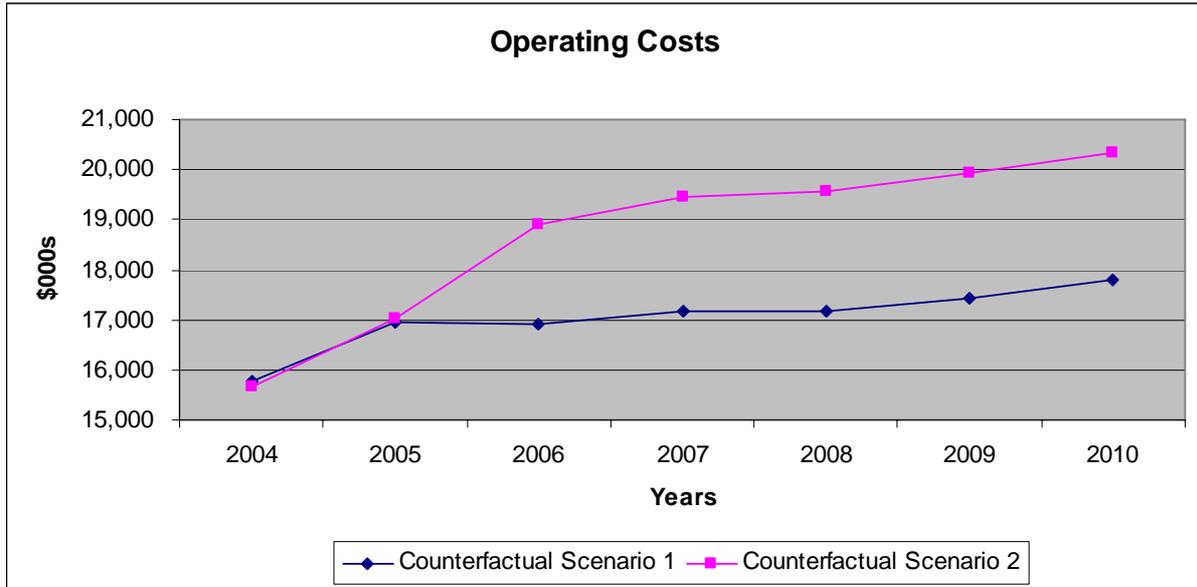
241 Key differences between Unison's initial (2004) position, as reflected in the Scenario 1 counterfactual, and the (2005) settlement offer, as reflected in the Scenario 2 counterfactual are as follows.

- Under the credible threat of control Unison has significantly altered its returns expectation. Table 12 shows the extent of this movement and compares it to the WACC calculated by the Commission.
- In Scenario 2 Unison has reduced its capital contributions forecasts from an average of around \$5 million per annum to \$3 million per annum, thereby reducing its forecast revenue. Unison cited in its settlement offer its "concern to reflect the company's belief that developments will 'cool off' over the next few years as higher interest rates bite and economic activity generally falls away." Unison also advised that it had not yet reviewed its capital contributions policy to reflect this dampening effect but intended to do so. It is not clear to the Commission at this stage whether the reduction in capital contributions from the level reflected in Unison's 2004 Asset Management Plan is justified.
- In Scenario 2, Unison's operating expenses from 2006 onwards are significantly higher (18%) than its original forecasts. A substantial portion of the increase is due to a forecast increase in indirect costs, of which about a quarter, representing \$614,000 of direct costs of control, have been excluded from the counterfactual, as explained in paragraph 238. Figure 3 compares the forecast operating expense of Scenario 1 with the forecast operating expense of Scenario 2 after having removed the \$614,000 of indirect operating costs that Unison included to represent the direct costs of control.
- In Scenario 2 Unison shows no rebates in the forecast period (although undergrounding is shown "in lieu of dividends"). This impacts the regulatory tax allowance when compared to Scenario 1, but the effect is not obvious due to the tax effects of other line items. No adjustments have been made by the Commission to Unison's forecasts of the value of the regulatory asset base, which include the cost of this undergrounding programme.

Table 12: ROI in Scenarios 1&2 during 2006-2010 compared with the Commission's WACC

ROI	2006	2007	2008	2009	2010
Scenario 1	12.23%	12.70%	12.69%	12.43%	12.02%
Scenario 2	10.94%	10.68%	10.38%	10.05%	9.48%
Commission's WACC	7.35%	7.35%	7.35%	7.35%	7.35%

Figure 3: Movement in Unison's Projected Operating Costs between Scenario 1 and Scenario 2



- 242 Figure 4 presents the two counterfactual scenarios and the corresponding factual scenarios. The revenue includes line charges for distribution services and capital contributions, but excludes revaluation gains.
- 243 Clearly there is a significant gap between the range of factual positions and the range of counterfactual positions. As noted above (paragraph 233), it is possible that the true factual may be below the range of factuals shown in Figure 4, because no attempt has been made at this stage of the Commission's decision-making process to estimate efficient costs.
- 244 Figure 5 compares the factual and counterfactual line charge revenue forecasts (excluding capital contributions and revaluation gains) with Unison's line charge revenue expectations while undertaking due diligence for the acquisition of Taupo and Rotorua assets. The graph also includes projected revenue forecast under the threshold price path based on conservative forecasts for demand growth.⁵⁸
- 245 It appears that the forecast of line charge revenue made by Unison as part of the due diligence process for acquiring the Rotorua and Taupo network assets was well below the later revenue forecasts provided by Unison (and used by the Commission as the

⁵⁸ This assumes CPI inflation on 31 March 2004 prices. Quantities are estimated by indexing 2004 base quantities by 1.05% (i.e., the connection growth rate forecast by Unison).

counterfactuals for Scenarios 1 and 2). Interestingly, the forecast line charge revenue arising from the due diligence process appears to also be below the revenue allowed for under Unison’s price path threshold set by the Commission.

Figure 4: Revenue Expectations under Scenarios 1 & 2 - Factuals and Counterfactuals

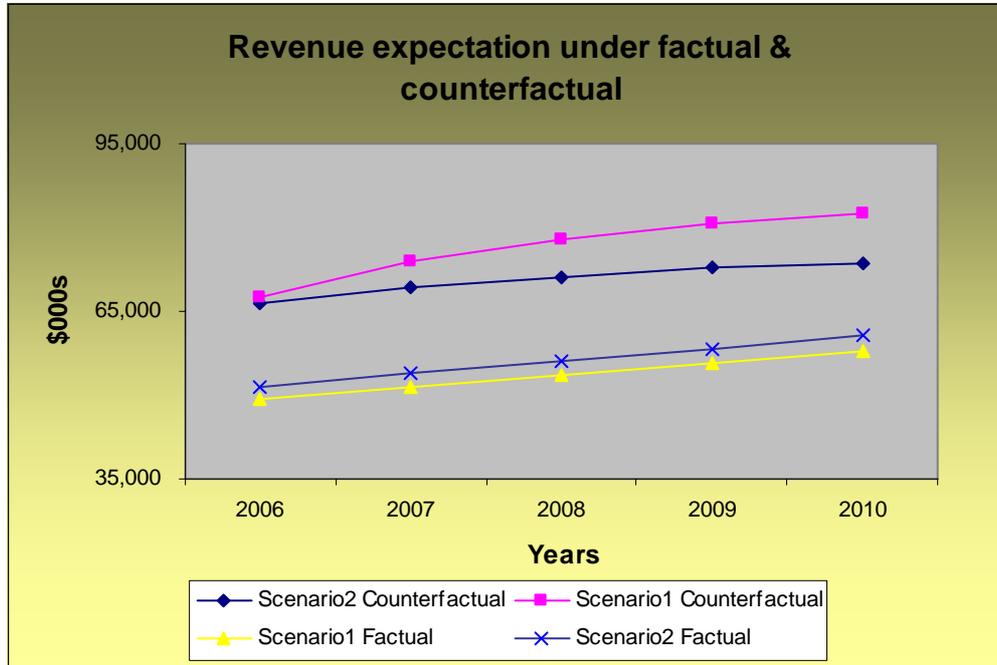
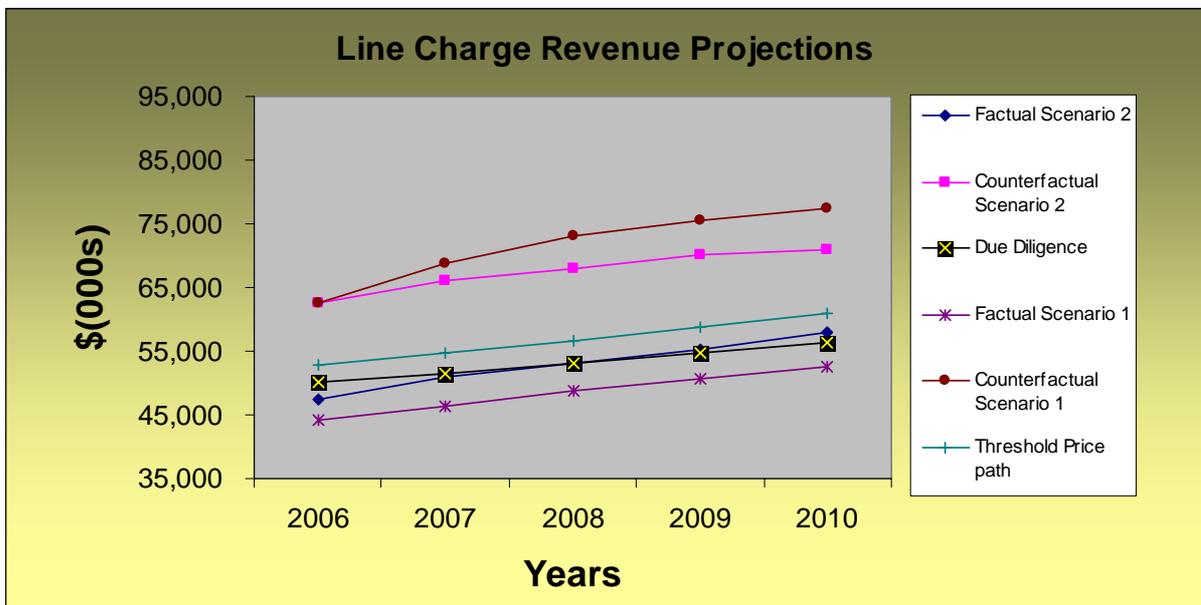


Figure 5: Revenue Projections under Due Diligence and Threshold Price Path



Net Benefits Analysis

Benefits of control

246 In determining the potential net benefits of controlling Unison, the Commission has assumed that the benefits of control solely arise from reducing the excess revenues identified in the previous subsections (Table 7 and Table 11). The Commission has been mindful not to incur unnecessary administrative and compliance costs by undertaking analysis that might not be particularly material to the decision required at the present stage of the post-breach inquiry (paragraph 100). Consequently, given the magnitude of the benefits associated with reducing excess revenue, the Commission has not considered it necessary to quantify any additional efficiency benefits that might be associated with control.

Direct costs of control

247 The Commission's view is that, in the absence of regulatory cost information specific to Unison at this stage, the cost estimates developed in the course of the Gas Control Inquiry provide a useful starting point for estimating the costs of control in this case.

248 The Gas Control Inquiry developed estimates of the direct costs of control based on submissions from gas pipelines businesses, regulatory compliance cost estimates developed by the Productivity Commission in Australia, and the costs incurred by the Commerce Commission in the course of the Inquiry. It also considered a range of wider market factors that were expected to give rise to indirect costs of control.

249 The direct costs of control developed in the Gas Control Inquiry, which are on an annual average basis, are presented in Table 13. As noted in an earlier section, lines businesses and the Commission already incur some direct costs under the targeted control regime and only the incremental cost of control, over and above these costs, needs to be considered. Although the Commission has not yet estimated the incremental direct cost of control, it is likely that this will be less than the \$614,000 estimated for gas. However, for the purposes of the net benefits analysis presented in this paper, the Commission has adopted a conservative approach in favour of Unison and assumed that the direct costs of control would be \$614,000 per annum on average.

Table 13: Average Direct Costs of Control (per Annum)

Compliance Cost	Regulator's cost	Total Direct Cost
\$355,000	\$259,000	\$614,000

Indirect costs of control

250 The Commission has decided not to take account of any indirect costs of control in the net benefits analysis for three reasons. First, the Commission does not consider it necessary to scale down the benefits of control to represent the indirect costs, given that the analysis is conservative in Unison's favour in many respects. In particular, the analysis has not attempted to quantify the extent of any inefficiencies inherent in Unison's own projections of operational and capital expenditures.

- 251 Second, the decision to publish an intention to declare control presented in this paper is the first such decision made by the Commission. Irrespective of the eventual outcome of the Unison post-breach inquiry, which could be a declaration of control, an administrative settlement, or a decision not to declare control, the final decision should significantly reduce any regulatory uncertainty for the industry as a whole that might be associated with the Part 4A regulatory regime (paragraph 198). In addition, the need for similar post-breach inquiries in future may be reduced.
- 252 Finally, the Commission's current estimates of the magnitude of the benefits of controlling Unison are so substantial that it is clear any indirect costs, even if they were significant, would not impact the Commission's current decision (on the basis of the information available and the analysis performed to date, undertaken without the benefit of consultation with interested parties). This is demonstrated by the sensitivity analysis presented below (Table 23).

Net benefits of control

- 253 Taking account of these costs of control, and using the excess revenue calculated earlier, the net benefits of control for the period 2006-2010 can be estimated (on a conservative basis), and these are presented in Table 14. The net benefits primarily arise because Unison is targeting higher returns than that considered reasonable by the Commission and because, in setting its revenue targets, Unison is not recognising revaluation gains as income.

Table 14: Present Value of Net Benefits of Control

Present Value	Excess Revenue (\$000s)	Direct Cost of Control (\$000s)	Net Benefits (\$000s)	Annuity (\$000s)
Scenario 1	92,465	2,494	89,971	22,148
Scenario 2	59,682	2,494	57,187	14,077

- 254 A comparison of the estimated costs of control with the excess revenue suggests that the benefits to consumers of imposing control significantly outweigh the direct costs of doing so. Although there may be indirect costs that have not been quantified, there are also likely to be further offsetting benefits, particularly in the form of productive efficiency gains.

Estimated pricing impact

- 255 Removal of excess revenue would result in line charge reductions. The average value of such reductions in Scenario 1 is estimated by the Commission to be as shown in Table 15. The average annual impact on connection of removing the excess revenue from Scenario 1 line charges is estimated in Table 16.
- 256 Table 17 and Table 18 show the results of a similar analysis of Scenario 2 figures on the prices, and project the annual savings per connection. (Although the counterfactual revenues in Scenario 1 are significantly higher than in Scenario 2, the counterfactual prices are not as high in Scenario 1—and in fact are less than the Scenario 2 price in 2006—because the forecast connections in Scenario 1 are also significantly higher than those in Scenario 2).

Table 15: Scenario 1 - Impact of Control on Average Prices (in c/kWh)

Scenario 1	2006	2007	2008	2009	2010
Counterfactual Price c/kWh (P_{c1})	3.99	4.30	4.50	4.59	4.62
Factual Price c/kWh (P_{f1})	2.82	2.90	3.00	3.07	3.14
Difference	1.17	1.40	1.50	1.52	1.48
% difference	29%	32%	33%	33%	32%

Table 16: Scenario 1 - Annual Line Charge Savings per Connection

Scenario 1	2006	2007	2008	2009	2010
Excess Revenue (\$000s)	18,391	22,300	24,402	25,016	24,827
Connections	106,482	108,186	109,917	111,676	113,463
Average Line Charge per connection p.a	\$ 588.80	\$ 635.07	\$ 664.64	\$ 677.54	\$ 682.33
Average price reduction per connection p.a.	\$ 172.71	\$ 206.12	\$ 222.00	\$ 224.01	\$ 218.81
% impact	29%	32%	33%	33%	32%

Table 17: Scenario 2 - Impact of Control on Average Prices (in c/kWh)

Scenario 2	2006	2007	2008	2009	2010
Counterfactual Price c/kWh (P_{c2})	4.02	4.20	4.28	4.36	4.37
Factual Price c/kWh (P_{f2})	3.05	3.24	3.33	3.44	3.56
Difference	0.97	0.97	0.95	0.92	0.81
% difference	24%	23%	22%	21%	19%

Table 18: Scenario 2 - Annual Line Charge Savings per Connection

Scenario 2	2006	2007	2008	2009	2010
Excess Revenue (\$000s)	15,044	15,199	15,067	14,710	13,142
Connections	104,463	105,562	106,674	107,797	108,932
Average Line Charge per connection p.a	\$ 598.65	\$ 626.19	\$ 637.91	\$ 649.56	\$ 651.63
Average price reduction per connection p.a.	\$ 144.01	\$ 143.98	\$ 141.24	\$ 136.46	\$ 120.65
% impact	24%	23%	22%	21%	19%

Sensitivity Analyses

Sensitivity to WACC

257 Sensitivity analyses of WACC on the excess revenue in Scenario 1 and Scenario 2—presented in Table 19 and Table 20—shows that the benefits of control remain significant under the entire WACC range (i.e., 6.25-8.45%).

Table 19: Scenario 1 – Sensitivity to WACC

Scenario 1	High WACC (8.45%)		Mid WACC (7.35%)		Low WACC (6.25%)	
	PV(\$000s)	Annuity	PV(\$000s)	Annuity	PV(\$000s)	Annuity
Excess Return	55,544	14,076	73,082	17,990	91,688	21,913
Excess Revenue	74,298	18,828	92,465	22,762	111,731	26,703

Table 20: Scenario 2 – Sensitivity to WACC

Scenario 2	High WACC (8.45%)		Mid WACC (7.35%)		Low WACC (6.25%)	
	PV(\$000s)	Annuity	PV(\$000s)	Annuity	PV(\$000s)	Annuity
Excess Return	26,453	6,704	43,102	10,610	60,774	14,525
Excess Revenue	39,425	9,991	59,682	14,691	77,877	18,612

Sensitivity to the CPI

258 Sensitivity of the counterfactual ROIs to variations in the CPI of $\pm 0.5\%$ are shown in Table 21 and Table 22. Under both scenarios Unison's ROI remains consistently higher than the Commission's estimate of the WACC.

Table 21: Sensitivity of the Scenario 1 Counterfactual ROI to the CPI

Revaluation gains index	2006	2007	2008	2009	2010
2.00%	11.82%	12.35%	12.39%	12.18%	11.81%
2.50%	12.23%	12.70%	12.69%	12.43%	12.02%
3.00%	12.64%	13.05%	12.99%	12.68%	12.23%

Table 22: Sensitivity of the Scenario 2 Counterfactual ROI to the CPI

Revaluation gains index	2006	2007	2008	2009	2010
2.00%	10.52%	10.31%	10.05%	9.77%	9.23%
2.50%	10.94%	10.68%	10.38%	10.05%	9.48%
3.00%	11.36%	11.05%	10.71%	10.34%	9.75%

Sensitivity to the indirect cost of control

259 The sensitivity of the net benefits of control to the possible indirect cost of control is shown in Table 23. The net benefits of control remain significant even where as much as 20% of excess revenue is unrecoverable.

Table 23: Sensitivity of the Net Benefits of Control to the Indirect Cost of Control

Indirect Cost of Control % of Excess Revenue Unrecoverable	Indirect Cost of Control \$000s	Net Benefits of Control \$000s	Annuity \$000s	Indirect Cost of Control \$000s	Net Benefits of Control \$000s	Annuity \$000s
0%	0	89,971	22,148	0	57,187	14,077
10%	9,247	80,724	19,871	5,968	51,219	12,608
20%	18,493	71,478	17,595	11,936	45,251	11,139

Disaggregated Network Analysis*Return on investment analysis of the Hawke's Bay, Rotorua and Taupo networks*

260 In its administrative settlement offer, Unison provided the Commission with disaggregated information on each of its three networks calculated by Unison using an average cost allocation methodology. This methodology allocates indirect and common costs to each of the three networks on the basis of the relative number of connections.

261 2005 budgeted information and 2006-2010 forecast information for each of the networks is presented in Table 24 to Table 26. Given that this information was sourced

from the settlement offer, the information is consistent with the aggregated Scenario 2—the lower of Unison’s two revenue forecasts. Taupo’s network is the smallest and its system fixed assets are valued at about one-fifth of the Hawke’s Bay system fixed assets and about one-half of Rotorua’s assets.

- 262 As with the aggregated network analysis the Commission constructed factual line charge revenue for each of the networks. Table 27 to Table 29 present the factual analysis for the three Unison networks.
- 263 The factuials developed for Taupo and Rotorua are conservative and based on the assumption that none of the tax losses generated by these networks are able to be used up by Unison. This allows the factual revenue on Rotorua and Taupo networks to be higher than the case where some of the losses were deemed to be utilised. However, the Hawke’s Bay regulatory tax expense has been limited to its interest tax shield in order to correspond with the overall regulatory tax expense calculated under the aggregate factual Scenario 2, resulting in an understatement of allowable Hawke’s Bay line charge revenue.

Table 24: Counterfactual - Taupo Network

Taupo Counterfactual	2005	2006	2007	2008	2009	2010
For the Financial Year ending 31 st March	Unison Budgeted (\$000s)	Unison Forecast (\$000s)	Unison Forecast (\$000s)	Unison Forecast (\$000s)	Unison Forecast (\$000s)	Unison Forecast (\$000s)
Revenue						
<i>Revenue - Line Charge</i>	10,415	10,356	10,941	11,267	11,598	11,768
<i>Revenue - Capital Contribution</i>	1,254	481	156	79	32	30
Total Regulatory Revenue (A)	11,669	10,836	11,097	11,188	11,630	11,738
Operating Expense (B)	2,171	2,410	2,572	2,596	2,657	2,725
Depreciation						
<i>System Fixed Asset Depreciation</i>	1,345	1,456	1,556	1,645	1,732	1,820
<i>Non System Fixed Asset Depreciation</i>	146	178	181	184	187	190
Total Regulatory Depreciation (C)	1,491	1,634	1,737	1,829	1,919	2,010
Regulatory Tax Allowance* (D)	847	769	876	1,017	1,195	1,337
Net Earnings (A-B-C-D)	7,161	6,024	5,912	5,746	5,859	5,667
Revaluation Gains	853	944	1,014	1,070	1,105	1,149
Net Earnings After Revaluation Gains (E)	8,013	6,968	6,926	6,816	6,963	6,816
Regulatory Asset Base (F)	36,781	40,130	42,644	44,457	46,043	47,534
Regulatory Return on Investment (E/F)	21.79%	17.36%	16.24%	15.33%	15.12%	14.34%
* Calculation of Regulatory Tax Allowance						
<i>Total regulatory revenue</i>	11,669	10,836	11,097	11,188	11,630	11,738
<i>less tax depreciation</i>	5,171	5,079	4,902	4,682	4,409	4,192
<i>less non-taxable capital contributions</i>	1,004	384	125	-63	25	-24
<i>less deductible renewals expensed</i>	757	635	845	892	916	793
<i>less operating expense</i>	2,171	2,410	2,572	2,596	2,657	2,725
<i>less tax deductible rebates</i>	0	0	0	0	0	0
<i>less interest on RAB</i>	1,018	1,205	1,281	1,335	1,383	1,427
Taxable Income	1,548	1,124	1,373	1,746	2,240	2,625
<i>Tax (0.33 * Taxable Income)</i>	511	371	453	576	739	866
<i>less losses brought forward</i>	0	0	0	0	0	0
<i>tax after losses</i>	511	371	453	576	739	866
<i>adjustment for unused losses</i>	0	0	0	0	0	0
Levered Tax Payable	511	371	453	576	739	866
<i>add back interest tax shield</i>	336	398	423	441	456	471
Regulatory Tax Allowance (D)	847	769	876	1,017	1,195	1,337

Table 25: Counterfactual - Rotorua Network

Rotorua Counterfactual	2005	2006	2007	2008	2009	2010
For the Financial Year ending 31 st March	Unison Budgeted (\$000s)	Unison Forecast (\$000s)	Unison Forecast (\$000s)	Unison Forecast (\$000s)	Unison Forecast (\$000s)	Unison Forecast (\$000s)
Revenue						
Revenue - Line Charge	18,582	18,509	19,568	20,141	20,722	20,999
Revenue - Capital Contribution	1,516	1,495	743	368	371	436
Total Regulatory Revenue (A)	20,098	20,004	20,311	20,510	21,093	21,435
Operating Expense (B)	5,111	5,671	5,779	5,810	5,932	6,065
Depreciation						
System Fixed Asset Depreciation	2,819	3,016	3,229	3,411	3,580	3,754
Non System Fixed Asset Depreciation	305	371	377	383	389	395
Total Regulatory Depreciation (C)	3,123	3,388	3,605	3,794	3,969	4,149
Regulatory Tax Allowance* (D)	1,194	1,133	1,368	1,599	1,878	2,102
Net Earnings (A-B-C-D)	10,671	9,812	9,558	9,306	9,313	9,119
Revaluation Gains	1,813	1,911	2,065	2,181	2,249	2,317
Net Earnings After Revaluation Gains (E)	12,484	11,724	11,624	11,487	11,562	11,435
Regulatory Asset Base (F)	76,235	81,613	86,972	90,629	93,365	96,028
Regulatory Return on Investment (E/F)	16.38%	14.36%	13.36%	12.68%	12.38%	11.91%
* Calculation of Regulatory Tax Allowance						
Total regulatory revenue	20,098	20,004	20,311	20,510	21,093	21,435
less tax depreciation	9,253	8,946	8,781	8,493	8,079	7,705
less non-taxable capital contributions	1,213	1,196	595	295	297	349
less deductible renewals expensed	905	758	1,010	1,066	1,094	947
less operating expense	5,111	5,671	5,779	5,810	5,932	6,065
less tax deductible rebates	0	0	0	0	0	0
less interest on RAB	2,111	2,451	2,612	2,721	2,804	2,884
Taxable Income	1,506	982	1,535	2,124	2,888	3,485
Tax (0.33 * Taxable Income)	497	324	506	701	953	1,150
less losses brought forward	0	0	0	0	0	0
tax after losses	497	324	506	701	953	1,150
adjustment for unused losses	0	0	0	0	0	0
Levered Tax Payable	497	324	506	701	953	1,150
add back interest tax shield	696	809	862	898	925	952
Regulatory Tax Allowance (D)	1,194	1,133	1,368	1,599	1,878	2,102

Table 26: Counterfactual – Hawke’s Bay Network

Hawkes Bay Counterfactual	2005 Unison Budgeted (\$000s)	2006 Unison Forecast (\$000s)	2007 Unison Forecast (\$000s)	2008 Unison Forecast (\$000s)	2009 Unison Forecast (\$000s)	2010 Unison Forecast (\$000s)
For the Financial Year ending 31 st March						
Revenue						
<i>Revenue - Line Charge</i>	33,818	33,672	35,593	36,640	37,701	38,216
<i>Revenue - Capital Contribution</i>	3,617	1,994	2,243	2,788	2,609	2,298
Total Regulatory Revenue (A)	37,435	35,666	37,835	39,427	40,310	40,513
Operating Expense (B)	9,730	10,806	11,120	11,142	11,327	11,561
Depreciation						
<i>System Fixed Asset Depreciation</i>	6,941	7,377	7,866	8,416	8,981	9,540
<i>Non System Fixed Asset Depreciation</i>	767	936	950	964	980	996
Total Regulatory Depreciation (C)	7,708	8,312	8,816	9,381	9,961	10,537
Regulatory Tax Allowance* (D)	5,348	4,775	4,973	5,088	5,144	5,176
Net Earnings (A-B-C-D)	14,648	11,773	12,926	13,817	13,878	13,240
Revaluation Gains	4,461	4,715	4,959	5,306	5,654	5,992
Net Earnings After Revaluation Gains (E)	19,109	16,488	17,885	19,123	19,532	19,232
Regulatory Asset Base (F)	189,041	199,815	211,620	225,475	239,149	251,671
Regulatory Return on Investment (E/F)	10.11%	8.25%	8.45%	8.48%	8.17%	7.64%
* Calculation of Regulatory Tax Allowance						
<i>Total regulatory revenue</i>	37,435	35,666	37,835	39,427	40,310	40,513
<i>less tax depreciation</i>	6,107	6,701	7,064	7,697	8,289	8,816
<i>less non-taxable capital contributions</i>	2,894	1,595	1,794	2,230	2,087	1,838
<i>less deductible renewals expensed</i>	2,497	2,093	2,787	2,942	3,019	2,615
<i>less operating expense</i>	9,730	10,806	11,120	11,142	11,327	11,561
<i>less tax deductible rebates</i>	0	0	0	0	0	0
<i>less interest on RAB</i>	5,234	6,000	6,355	6,771	7,181	7,557
Taxable Income	10,974	8,470	8,716	8,646	8,407	8,127
<i>Tax (0.33 * Taxable Income)</i>	3,621	2,795	2,876	2,853	2,774	2,682
<i>less losses brought forward</i>	0	0	0	0	0	0
<i>tax after losses</i>	3,621	2,795	2,876	2,853	2,774	2,682
<i>adjustment for unused losses</i>	0	0	0	0	0	0
Levered Tax Payable	3,621	2,795	2,876	2,853	2,774	2,682
<i>add back interest tax shield</i>	1,727	1,980	2,097	2,234	2,370	2,494
Regulatory Tax Allowance (D)	5,348	4,775	4,973	5,088	5,144	5,176

Table 27: Factual – Taupo Network

Taupo factual	2005	2006	2007	2008	2009	2010
For the Financial Year ending 31 st March	Unison Budgeted (\$000s)	Commissioner Forecast (\$000s)	Commissioner Forecast (\$000s)	Commissioner Forecast (\$000s)	Commissioner Forecast (\$000s)	Commissioner Forecast (\$000s)
Revenue						
<i>Revenue - Line Charge</i>	10,415	5,966	6,696	7,141	7,279	7,579
<i>Revenue - Capital Contribution</i>	1,254	481	156	79	32	30
Total Regulatory Revenue (A)	11,669	6,446	6,852	7,062	7,311	7,549
Operating Expense (B)	2,171	2,410	2,572	2,596	2,657	2,725
Depreciation						
<i>System Fixed Asset Depreciation</i>	1,345	1,456	1,556	1,645	1,732	1,820
<i>Non System Fixed Asset Depreciation</i>	146	178	181	184	187	190
Total Regulatory Depreciation (C)	1,491	1,634	1,737	1,829	1,919	2,010
Regulatory Tax Allowance* (D)	847	398	423	441	456	471
Net Earnings (A-B-C-D)	7,161	2,005	2,120	2,196	2,278	2,344
Revaluation Gains	853	944	1,014	1,070	1,105	1,149
Net Earnings After Revaluation Gains (E)	8,013	2,948	3,133	3,266	3,383	3,492
Regulatory Asset Base (F)	36,781	40,130	42,644	44,457	46,043	47,534
Regulatory Return on Investment (E/F)	21.79%	7.35%	7.35%	7.35%	7.35%	7.35%
* Calculation of Regulatory Tax Allowance						
<i>Total regulatory revenue</i>	11,669	6,446	6,852	7,062	7,311	7,549
<i>less tax depreciation</i>	5,171	5,079	4,902	4,682	4,409	4,192
<i>less non-taxable capital contributions</i>	1,004	384	125	-63	25	-24
<i>less deductible renewals expensed</i>	757	635	845	892	916	793
<i>less operating expense</i>	2,171	2,410	2,572	2,596	2,657	2,725
<i>less tax deductible rebates</i>	0	0	0	0	0	0
<i>less interest on RAB</i>	1,018	1,205	1,281	1,335	1,383	1,427
Taxable Income	1,548	-3,266	-2,873	-2,380	-2,079	-1,565
<i>Tax (0.33 * Taxable Income)</i>	511	-1,078	-948	-785	-686	-516
<i>less losses brought forward</i>	0	0	1,078	2,026	2,811	3,497
<i>tax after losses</i>	511	-1,078	-2,026	-2,811	-3,497	-4,014
<i>adjustment for unused losses</i>	0	1,078	2,026	2,811	3,497	4,014
Levered Tax Payable	511	0	0	0	0	0
<i>add back interest tax shield</i>	336	398	423	441	456	471
Regulatory Tax Allowance (D)	847	398	423	441	456	471

Table 28: Factual – Rotorua Network

Rotorua factual	2005	2006	2007	2008	2009	2010
For the Financial Year ending 31 st March	Unison Budgeted (\$000s)	Commission Forecast (\$000s)	Commission Forecast (\$000s)	Commission Forecast (\$000s)	Commission Forecast (\$000s)	Commission Forecast (\$000s)
Revenue						
<i>Revenue - Line Charge</i>	18,582	12,458	13,828	14,612	15,067	15,469
<i>Revenue - Capital Contribution</i>	1,516	1,495	743	368	371	436
Total Regulatory Revenue (A)	20,098	13,953	14,571	14,980	15,438	15,905
Operating Expense (B)	5,111	5,671	5,779	5,810	5,932	6,065
Depreciation						
<i>System Fixed Asset Depreciation</i>	2,819	3,016	3,229	3,411	3,580	3,754
<i>Non System Fixed Asset Depreciation</i>	305	371	377	383	389	395
Total Regulatory Depreciation (C)	3,123	3,388	3,605	3,794	3,969	4,149
Regulatory Tax Allowance* (D)	1,194	809	862	898	925	952
Net Earnings (A-B-C-D)	10,671	4,085	4,325	4,478	4,611	4,739
Revaluation Gains	1,813	1,911	2,065	2,181	2,249	2,317
Net Earnings After Revaluation Gains (E)	12,484	5,996	6,390	6,659	6,860	7,056
Regulatory Asset Base (F)	76,235	81,613	86,972	90,629	93,365	96,028
Regulatory Return on Investment (E/F)	16.38%	7.35%	7.35%	7.35%	7.35%	7.35%
* Calculation of Regulatory Tax Allowance						
<i>Total regulatory revenue</i>	20,098	13,953	14,571	14,980	15,438	15,905
<i>less tax depreciation</i>	9,253	8,946	8,781	8,493	8,079	7,705
<i>less non-taxable capital contributions</i>	1,213	1,196	595	295	297	349
<i>less deductible renewals expensed</i>	905	758	1,010	1,066	1,094	947
<i>less operating expense</i>	5,111	5,671	5,779	5,810	5,932	6,065
<i>less tax deductible rebates</i>	0	0	0	0	0	0
<i>less interest on RAB</i>	2,111	2,451	2,612	2,721	2,804	2,884
Taxable Income	1,506	-5,069	-4,205	-3,405	-2,767	-2,045
<i>Tax (0.33 * Taxable Income)</i>	497	-1,673	-1,388	-1,124	-913	-675
<i>less losses brought forward</i>	0	0	1,673	3,061	4,184	5,097
<i>tax after losses</i>	497	-1,673	-3,061	-4,184	-5,097	-5,772
<i>adjustment for unused losses</i>	0	1,673	3,061	4,184	5,097	5,772
Levered Tax Payable	497	0	0	0	0	0
<i>add back interest tax shield</i>	696	809	862	898	925	952
Regulatory Tax Allowance (D)	1,194	809	862	898	925	952

Table 29: Factual – Hawke’s Bay Network⁵⁹

Hawkes Bay factual	2005 Unison Budgeted (\$000s)	2006 Commissioner Forecast (\$000s)	2007 Commissioner Forecast (\$000s)	2008 Commissioner Forecast (\$000s)	2009 Commissioner Forecast (\$000s)	2010 Commissioner Forecast (\$000s)
For the Financial Year ending 31 st March						
Revenue						
Revenue - Line Charge	33,818	29,070	30,380	31,230	32,966	34,793
Revenue - Capital Contribution	3,617	1,994	2,243	2,788	2,609	2,298
Total Regulatory Revenue (A)	37,435	31,064	32,623	34,017	35,575	37,091
Operating Expense (B)	9,730	10,806	11,120	11,142	11,327	11,561
Depreciation						
System Fixed Asset Depreciation	6,941	7,377	7,866	8,416	8,981	9,540
Non System Fixed Asset Depreciation	767	936	950	964	980	996
Total Regulatory Depreciation (C)	7,708	8,312	8,816	9,381	9,961	10,537
Regulatory Tax Allowance* (D)	5,348	1,980	2,097	2,234	2,370	2,494
Net Earnings (A-B-C-D)	14,648	9,966	10,590	11,261	11,917	12,499
Revaluation Gains	4,461	4,715	4,959	5,306	5,654	5,992
Net Earnings After Revaluation Gains (E)	19,109	14,681	15,549	16,566	17,571	18,491
Regulatory Asset Base (F)	189,041	199,815	211,620	225,475	239,149	251,671
Regulatory Return on Investment (E/F)	10.11%	7.35%	7.35%	7.35%	7.35%	7.35%
* Calculation of Regulatory Tax Allowance						
Total regulatory revenue	37,435	31,064	32,623	34,017	35,575	37,091
less tax depreciation	6,107	6,701	7,064	7,697	8,289	8,816
less non-taxable capital contributions	2,894	1,595	1,794	2,230	2,087	1,838
less deductible renewals expensed	2,497	2,093	2,787	2,942	3,019	2,615
less operating expense	9,730	10,806	11,120	11,142	11,327	11,561
less tax deductible rebates	0	0	0	0	0	0
less interest on RAB	5,234	6,000	6,355	6,771	7,181	7,557
Taxable Income	10,974	3,868	3,503	3,237	3,672	4,704
Tax (0.33 * Taxable Income)	3,621	1,277	1,156	1,068	1,212	1,552
less losses brought forward	0	0	0	0	0	0
tax after losses	3,621	1,277	1,156	1,068	1,212	1,552
adjustment for unused losses	0	0	0	0	0	0
Levered Tax Payable	3,621	1,277	1,156	1,068	1,212	1,552
add back interest tax shield	1,727	1,980	2,097	2,234	2,370	2,494
Regulatory Tax Allowance (D)	5,348	1,980	2,097	2,234	2,370	2,494

⁵⁹ For the purposes of the disaggregated analysis the regulatory tax allowance for Hawke’s Bay is limited to the interest tax shield.

Excess returns analysis of the Hawke's Bay, Rotorua and Taupo networks

- 264 The Commission has carried out an excess returns analysis for each of the networks owned by Unison, based on the factualls and counterfactuals presented in the previous tables. Table 30 to Table 32 show the forecast PV of excess returns for each network in the period 2006-2010, and the annuity of these returns, in 2005 dollars.
- 265 Despite Taupo's asset base being about one-fifth of the value of Hawke's Bay's, the excess returns on Taupo's network over the analysis period are double those of the Hawke's Bay network. Higher returns are also apparent on the Rotorua network compared with Hawke's Bay.
- 266 Forecast returns for each of the networks are presented in Table 33. The table shows an ongoing pattern of considerably higher returns on the Taupo and Rotorua assets. In the Commission's view this is suggestive of pricing not reflecting the efficient costs of providing services at individual network levels.
- 267 The assumption made in respect of the tax losses described above (paragraph 263) makes the Rotorua and Taupo analysis conservative (because the factual revenues are over-estimated by the amount of the tax losses that could be absorbed by the Hawke's Bay operations). Consequently, it is likely that returns on Taupo/Rotorua assets are likely to be even higher than those indicated in tables below. Therefore, the gap between the earnings on the consumer owned network and the earnings on the other networks is likely to be greater than that estimated. In addition, as already noted, the analysis in aggregate is likely to be conservative in favour of Unison.

Table 30: PV and Annuity of Excess Returns and Excess Revenue on Taupo Network

Taupo	2006 \$(000s)	2007 \$(000s)	2008 \$(000s)	2009 \$(000s)	2010 \$(000s)	Total \$(000s)	PV \$(000s)	Annuity \$(000s)
Line Charge Revenue								
Counterfactual	10,356	10,941	11,267	11,598	11,768			
Factual	5,966	6,696	7,141	7,279	7,579			
Excess Revenue	4,390	4,245	4,126	4,319	4,189	21,270	17,301	4,259
Regulatory Taxation Expense								
Counterfactual	769	876	1,017	1,195	1,337			
Factual	398	423	441	456	471			
Tax Effect of Control	371	453	576	739	866	3,006	2,369	583
Net Earnings After Revaluation Gains								
Counterfactual	6,968	6,926	6,816	6,963	6,816			
Factual	2,948	3,133	3,266	3,383	3,492			
Excess Returns	4,019	3,792	3,550	3,580	3,323	18,265	14,932	3,676

Table 31: PV and Annuity of Excess Returns and Excess Revenue on Rotorua Network

Rotorua	2006 \$(000s)	2007 \$(000s)	2008 \$(000s)	2009 \$(000s)	2010 \$(000s)	Total \$(000s)	PV \$(000s)	Annuity \$(000s)
Line Charge Revenue								
Counterfactual	18,509	19,568	20,141	20,722	20,999			
Factual	12,458	13,828	14,612	15,067	15,469			
Excess Revenue	6,051	5,740	5,529	5,655	5,530	28,506	23,226	5,717
Regulatory Taxation Expense								
Counterfactual	1,133	1,368	1,599	1,878	2,102			
Factual	809	862	898	925	952			
Tax Effect of Control	324	506	701	953	1,150	3,635	2,833	697
Net Earnings After Revaluation Gains								
Counterfactual	11,724	11,624	11,487	11,562	11,435			
Factual	5,996	6,390	6,659	6,860	7,056			
Excess Returns	5,727	5,234	4,828	4,702	4,380	24,871	20,394	5,020

Table 32: PV and Annuity of Excess Returns and Excess Revenue on Hawke's Bay Network

Hawkes Bay	2006 \$(000s)	2007 \$(000s)	2008 \$(000s)	2009 \$(000s)	2010 \$(000s)	Total \$(000s)	PV \$(000s)	Annuity \$(000s)
Line Charge Revenue								
Counterfactual	33,672	35,593	36,640	37,701	38,216			
Factual	29,070	30,380	31,230	32,966	34,793			
Excess Revenue	4,602	5,213	5,410	4,735	3,423	23,382	19,151	4,714
Regulatory Taxation Expense								
Counterfactual	4,775	4,973	5,088	5,144	5,176			
Factual	1,980	2,097	2,234	2,370	2,494			
Tax Effect of Control	2,795	2,876	2,853	2,774	2,682	13,981	11,377	2,801
Net Earnings After Revaluation Gains								
Counterfactual	16,488	17,885	19,123	19,532	19,232			
Factual	14,681	15,549	16,566	17,571	18,491			
Excess Returns	1,807	2,337	2,557	1,961	741	9,401	7,774	1,914

Table 33: Estimated ROI for Hawke's Bay, Rotorua and Taupo Networks (Consistent with Scenario 2)

ROI	2005	2006	2007	2008	2009	2010
Taupo	21.79%	17.36%	16.24%	15.33%	15.12%	14.34%
Rotorua	16.38%	14.36%	13.36%	12.68%	12.38%	11.91%
Hawkes Bay	10.11%	8.25%	8.45%	8.48%	8.17%	7.64%

Note: 2005 values are based on Unison's budgeted costs and revenues for the year ending 31 March 2005

Sensitivity analyses

268 As noted above (paragraph 260), Unison has allocated indirect costs to the three networks on the basis of an average cost allocation methodology. The Commission's sensitivity analysis on these average values is shown in Table 34, where the "100%" row means that 100% of the allocated average indirect operating costs are allocated to that network (i.e. the base case). Hence, the "200%" row indicates the effect on the ROI of doubling the average level of indirect operating costs for a particular network.

- 269 This sensitivity analysis indicates that the returns remain consistently higher than those acceptable to the Commission even under extreme assumptions of the level of indirect operating costs attributable to each of the networks.
- 270 Sensitivity to the CPI assumptions for each of the three networks was also tested and the results are presented in Table 35.

Table 34: Sensitivity to Indirect Operating Costs

% of Indirect Costs submitted by Unison	2006	2007	2008	2009	2010
Taupo					
100%	17.4%	16.2%	15.3%	15.1%	14.3%
110%	17.2%	16.1%	15.2%	15.0%	14.2%
150%	16.4%	15.4%	14.5%	14.3%	13.5%
200%	15.5%	14.5%	13.6%	13.4%	12.6%
Rotorua					
100%	14.4%	13.4%	12.7%	12.4%	11.9%
110%	14.2%	13.2%	12.5%	12.2%	11.7%
150%	13.2%	12.5%	11.7%	11.4%	11.0%
200%	11.7%	11.0%	10.6%	10.5%	10.3%
Hawkes Bay					
100%	8.3%	8.5%	8.5%	8.2%	7.6%
110%	8.1%	8.3%	8.3%	8.0%	7.5%
150%	7.5%	7.7%	7.7%	7.5%	7.0%

Table 35: Sensitivity to the CPI

CPI Index	2006	2007	2008	2009	2010
Taupo					
2.0%	17.0%	15.9%	15.1%	14.9%	14.2%
2.5%	17.4%	16.2%	15.3%	15.1%	14.3%
3.0%	17.8%	16.6%	15.6%	15.3%	14.5%
Rotorua					
2.0%	14.0%	13.0%	12.4%	12.1%	11.7%
2.5%	14.4%	13.4%	12.7%	12.4%	11.9%
3.0%	14.8%	13.7%	13.0%	12.6%	12.1%
Hawkes Bay					
2.0%	7.8%	8.1%	8.1%	7.9%	7.3%
2.5%	8.3%	8.5%	8.5%	8.2%	7.6%
3.0%	8.7%	8.8%	8.8%	8.5%	7.9%

Potential price impact of control on line charges

- 271 Control would be intended to largely realign Unison's line charges for distribution services toward efficient price levels, subject to any constraints on the company's ability to do, consistent with the Purpose Statement. Given the assumptions in Scenario 2, control could result in annual line charge savings for each of the three networks up to the levels shown in Table 36. Clearly, based on the Commission's preliminary analysis, the customers on the Taupo and Rotorua networks would likely benefit most from the imposition of control, although Hawke's Bay consumers would also benefit from control.

Table 36: Potential Annual Line Charge Savings to Consumers from Control of Unison

	2006	2007	2008	2009	2010
Taupo					
Average price per connection per annum	756	788	800	812	813
Price reduction due to control	321	306	293	303	289
% reduction	42%	39%	37%	37%	36%
Rotorua					
Average price per connection per annum	590	617	629	641	643
Price reduction due to control	193	181	173	175	169
% reduction	33%	29%	27%	27%	26%
Hawkes Bay					
Average price per connection per annum	567	593	605	616	618
Price reduction due to control	77	87	89	77	55
% reduction	14%	15%	15%	13%	9%

INTENTION TO DECLARE CONTROL

Commission's Intention to Declare Control

- 272 The Commission's preliminary view, having taken into account the purpose of subpart 1 of Part 4A, contained in s 57E of the Act, is that the distribution services supplied by Unison should be subject to control. Control of Unison would, in the Commission's view, be consistent with the Purpose Statement. In particular, the Commission considers, on the basis of its analysis to date, that there would be long-term benefits to consumers following the imposition of control, primarily resulting from prices lower than they would be in the absence of control.
- 273 The Commission considers that, on the basis of the evidence currently before it, Unison is earning excessive profits from consumers of distribution services and that, without control, Unison would continue to do so in future. Control would limit Unison's ability to extract excessive profits going forward.
- 274 Furthermore, there is evidence that the returns being earned from consumers that are not beneficiaries of the Hawke's Bay Power Consumers' Trust are significantly higher than those from Unison's consumer owners. Consequently, while the greater part of the benefits of control would likely accrue to Unison's Rotorua and Taupo consumers, control would nevertheless be likely to be favourable to all consumers, including those in Hawke's Bay.
- 275 Accordingly, pursuant to s 57I(1) of the Act, the Commission has published an Intention to Declare Control in the *Gazette* (Intention Notice),⁶⁰ and invites interested persons—including Unison—to give their views on the matter. The Commission will have regard to those views.
- 276 In addition, the Commission considers it is appropriate at this stage of the process that the issues raised in Unison's administrative settlement offer should be consulted on in a public forum that allows all interested persons an opportunity to present their views.

Next Steps

Process timetable

- 277 The Commission notes that this is the first occasion that this step in the regulatory process has been reached (i.e., the publishing of an intention to declare control) and has therefore provided a timetable to provide interested persons with sufficient time to prepare for consultation.
- 278 There will be a submission period on this paper, and a conference following receipt of submissions, in order to give interested persons a reasonable opportunity to present their views on the matter. Submissions are not limited to the matters raised in this paper, but may address any matters relevant to the Commission's intention to declare control on Unison.

⁶⁰ supra n 1.

279 The timetable for this process is as presented in Table 37 and has also been published in the Intention Notice.

Table 37: Process Timetable

Scheduled Date	Event
9 September 2005	Notice of intention to declare control published in the <i>Gazette</i> and the Commission releases this paper
14 September 2005	The Commission releases its net benefits model
21 October 2005	Submissions on this paper due
Week of 7 November 2005	Conference to give interested persons an opportunity to present their submissions
25 November 2005	Cross-submissions following the conference due

Confidentiality

280 Parties making submissions may wish to provide confidential or commercially sensitive information to the Commission. Parties can request that the Commission make orders under s 100 of the Act in respect of information that should not be made public. Any request for an s 100 order must be made when the relevant information is supplied to the Commission and must identify the reasons why the relevant information should not be made public. The Commission will provide further information on s 100 orders if requested by parties, including the principles that are applied when considering requests for such orders.

281 Any s 100 order will apply for a limited time only as specified in the order. Once an order expires, the relevant information is then subject to the Official Information Act. If, following expiry of the order, the Commission receives a request for disclosure of information formerly privileged to the s100 order, it will consult with the party that provided the information as to whether the information should remain confidential (and, if so, why). The Commission can decline requests for information on the grounds set out in the Official Information Act. Any decision by the Commission to withhold information is subject to appeal to the Ombudsman.

282 The Commission discourages requests for non-disclosure of submissions, in whole or in part, as it is desirable to test all information in a fully public way. It is unlikely to agree to any requests that submissions in their entirety not be made public. However, the Commission recognises there will be cases where information should not be published. If it is necessary to include such material in a submission the information should be clearly marked and preferably included in an appendix to the submission. Interested parties should provide the Commission both confidential and public versions of their submissions in both electronic and hard copy forms. The responsibility for ensuring that confidential information is not included in a public version of a submission rests entirely with the party making the submission.

Receipt of submissions

283 The Commission intends publishing all submissions on its website. Accordingly, the Commission would prefer receiving these in electronic form. If the submission does not contain confidential information, it is not necessary for interested parties to send the

Commission hard copies of their submissions, unless it is not possible to do so electronically.

284 Submissions should be sent to:

E-mail: electricity@comcom.govt.nz; or

Unison Post-Breach Inquiry
Network Performance Group
Networks Branch
Commerce Commission
P.O. Box 2351
Wellington

Possible Outcomes of the Post-Breach Inquiry

- 285 After having regard to the views of interested persons, which will include the information from submissions, the conference and cross-submissions, the Commission will decide whether to proceed with declaring control of distribution services supplied by Unison. In making such a decision, the Commission may need to undertake further investigations and analysis, and therefore may seek further information from Unison.
- 286 During this consultation period it is still possible that the Commission and Unison may agree to the terms of an administrative settlement, although the Commission anticipates that it would do so after again formally considering the views of other interested parties. The Commission would continue with its Stage 2 post-breach inquiry to determine whether or not to declare control alongside any discussions in respect of a proposed administrative settlement.
- 287 If the Commission decides not to make a declaration of control, either because it has accepted an administrative settlement or for other reasons, then it will publish its reasons for doing so in the *Gazette*. Where an administrative settlement has been reached those reasons would likely refer to the terms of the settlement.
- 288 The Commission emphasises that, should the outcome of this post-breach inquiry be a declaration of control, the assumptions made in this paper concerning possible price paths for Unison under control (i.e., the “factuals”) do not in any way pre-determine the form and nature of actual control.
- 289 If a declaration of control is made under Part 4A of the Act in respect of services supplied by Unison, then the Act provides for the making of a provisional authorisation, to be followed by a subsequent consultation process under Part V of the Act, before any final authorisation is made (or an alternative undertaking is accepted from Unison). Any or all distribution services provided by Unison may be subject to control, and authorisations may be made in respect of all or some components of the prices, revenues or quality standards, using whatever approach the Commission considers appropriate, having regard to the Purpose Statement.

APPENDIX: SPECIFICATION OF THE UNISON MODEL

Variables	Description/Equation
Key inputs	
Quantities (Q)	Total electricity supplied for retail after losses in GWh
Number of connections (X)	Total number of connections to distribution network
Optimised Deprival Value (ODV) of system fixed assets (SFA) **	$ODV_t = ODV_{t-1} + \text{capital additions}_t - \text{capital disposals}_t - \text{Dodv}_t + G_t$
Fair value of regulated non-system fixed assets (FV)	$FV_t = FV_{t-1} + \text{capital additions}_t - \text{capital disposals}_t - \text{accounting depreciation}_t$
Regulatory asset base (RAB)	$RAB = ODV + FV$
Average regulatory asset base (A)	$A_t = (RAB_{t-1} + RAB_t - G_t)/2$
Line charge revenue (L)	L = line charge revenue (excluding Transpower costs)
Revaluation gain (loss) (G)	$G_t = ODV_{t-1} * \text{Consumer Price Index}_t$
Capital contributions (C)	C = cash contributions only (vested assets were not identified)
Capital contributions [non-assessable] (Cd)	Cd = capital contributions which are non-assessable for tax purposes
Operating expenditure (O) **	O = regulatory operating costs (excluding Transpower costs)
Renewals [deductible] (RW)	System capital expenditure that is deductible for tax purposes
Rebates (RE)	RE = tax deductible rebates paid out to consumer owners
Regulatory system fixed asset depreciation (Dodv)	<p>Dodv_t for SFA = Depreciation on indexed 2004 asset (Da) + Depreciation on indexed capital expenditure (Dc)</p> $Da_t = \frac{1}{26.2} SFA_{2004} * (1 + Index)^{t-2005}$ $Dc_t = \frac{1}{48.4} \left(\frac{CA_t}{2} + \sum_{i=2005}^{t-1} CA_i * (1 + Index)^{t-i} \right)$ <p>CA = Capital expenditure Index = Revaluation gains index (i.e., the CPI) 26.2 = Unison's average remaining life of SFA 48.4 = Unison's average life of SFA</p>
Regulatory non system fixed asset depreciation (Dnsa)	Depreciation for non-system fixed assets is taken from Unison's own data
Tax depreciation on all assets (Dtax)	Tax depreciation is taken from Unison's own data
Regulatory interest (I)	$I_t = A_t * \text{efficient leverage} * \text{efficient cost of debt}_t$
Revenue – counterfactual (Rc)	$Rc = L + C$
Revenue – factual (Rf)	$Rf = A * WACC + \text{Dodv} + \text{Dnsa} + O + T - G$

Variables	Description/Equation
Taxable income – counterfactual (Tec)	$Tec = Rc - Cd - RE - O - RW - Dtax$
Taxable income – factual (Tef)	$Tef = Rf - O - Dtax - RE - RW - Cd$
Unlevered tax payable (Tu) [c or f]	$Tu = TE * (0.33)$
Levered tax payable (TL) [c or f]	$TL = Tu - (I * 0.33)$
Tax losses brought forward (F)	F = unutilised tax losses brought forward from prior years
Levered tax after losses (TLL) [c or f]	$TLL = TL - F$
Levered tax payable TLP [c or f]	$TLP = \text{Max}(0, TLL)$
Regulatory tax allowance (TR) [c or f]	$TR = TLP + (I * 0.33)$
Costs of control (CC)	CC = direct and indirect costs of control
Key Outputs	
Net earnings – counterfactual (Nec)	$Nec = Rc - O - Taxc - Dodv - Dnsa + G$
Net earnings – factual (Nef)	$Nef = Rf - O - Taxf - Dodv - Dnsa + G$
Excess Returns (ER)	$Nec - Nef$
Excess Revenue (B)	$B = Rc - Rf$
Net Excess Revenue (NB)	$NB = B - CC$
Return on Investment (ROI)	$ROI = Nec / A$
Average distribution price per kWh (Pq)	$Pq = L / Q$
Average distribution price per connection (Px)	$Px = L / X$

* For the purposes of the Unison modelling the capital additions and operating expenditure are assumed to be the same for both the counterfactual and the factual. They would differ, however, wherever adjustments were made to reflect efficient values in the factual.