KPMG

Telecom New Zealand Limited

Audit of certain inputs to the TSO cost for the year ended 30 June 2004

22 September 2004

This report contains 20 pages

Contents

1 Executive Summary

1.1 Background

Under the Telecommunications Act 2001 ('the Act'), which commenced on 20 December 2001, the costs of meeting the Telecommunications Service Obligations ('TSO') under the Government's Kiwi Share are to be shared between Telecom and the other telecommunications companies, i.e. Telecom bears the cost of meeting these obligations and is able to recover a proportion of them from its competitors.

Telecom is required to present a statement of the loss relating to the TSO, calculated in a way that meets the Commerce Commission's requirements, within 60 working days of its financial year-end. A report from a qualified auditor is required under the legislation to confirm compliance with those requirements.

Section 83 (b) of the Act requires the qualified auditor to consider if the calculations comply with the prescribed requirements of the Commerce Commission. In its correspondence with Telecom, the Commerce Commission indicated the audit requirements of KPMG, as follows:

Auditor's report

The Commission considers that to meet the section 83(b) requirement that Telecom's cost calculations comply with the requirements of the Commission, a report needs to be prepared by a qualified auditor that states whether or not:

(i) the input data supplied by the Commission has been utilised unaltered in the cost calculation; and

(ii) revenue per line information sourced from Netbits/PROBE is robust and reliable, including adjustments to account for supplementary/toll service revenue bundled with access revenues; and

(iii) traffic volume (call and number duration) information is robust and reliable.

Section 83 does not require the auditor to audit the Commission's model.

In preparing the TSO loss calculation for the year ended 30 June 2004, Telecom has used the models provided by the Commerce Commission - CostPro and HCPM (which we refer to as 'the Commerce Commission's model') - and has provided revenue and traffic volume information as an input.

1.2 Scope of and approach to our work

The scope of our audit is stated in the 2 August 2004 letter from the Commerce Commission to Telecom.

The KPMG audit approach includes the following procedures:

1 enquiry and discussions with Telecom staff and management

2 review of documentation prepared by Telecom to support the revenue information input into the Commerce Commission's model

3 agreeing the revenue information to core Telecom systems and databases, and to Telecom calculations that used Telecom systems and databases

4 observation and discussion with Telecom staff in order to understand the process followed in using the Commerce Commission's model to calculate the TSO loss.

Our audit work is limited to the following:

(i) ensuring the input data supplied by the Commerce Commission has been utilised unaltered in the cost calculation;

(ii) ensuring revenue per line information sourced from Netbits/PROBE is robust and reliable; and

(iii) ensuring traffic volume (call number and duration) information is robust and reliable.

We conducted our audit in accordance with the Auditing Standards issued by the Institute of Chartered Accountants of New Zealand that require us to plan and perform our audit so as to obtain all the relevant information and explanations which we consider necessary in order to provide this opinion.

We have not audited or examined in any way the Commerce Commission's model – our audit is limited to ensuring the revenue inputs to the Commerce Commission's model are robust and reliable.

1.3 Conclusion

The loss calculated by Telecom using the Commerce Commission's model is $141.3 million for the year ended 30 June 2004.

Set out below is an analysis of the cost of capital used by Telecom as an input to the Commerce Commission's model, together with the weighted average cost of capital required by the Commerce Commission.

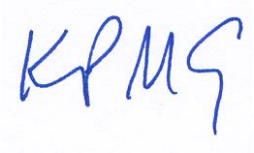
	Telecom Input	*Commerce Commission requirement*
Cost of capital (post-tax)	**12.1%**	**7.4%**

Telecom has used a post-tax cost of capital of 12.1% generally, which is not in accordance with the requirements of the Commerce Commission and our report is therefore qualified in this respect. Other than the treatment of the cost of capital by Telecom, we consider that:

- the revenue and traffic volume information used as an input by Telecom to the Commerce Commission's model was reliable and robust
- the input data supplied by the Commerce Commission has been utilised unaltered by Telecom in the Commerce Commission's model.

1.4 Use of our report

Our long form audit report is prepared solely for the benefit of Telecom and the Commission in light of the terms of reference established between KPMG and Telecom. The terms of reference will be referred to and included in our long form report. The long form audit report may not be relied upon by any other persons for any other purpose, and may not be quoted or referred to, in whole or in part, without prior written consent. Had other parties engaged KPMG, they may have engaged KPMG to perform procedures that differ to those agreed between KPMG and Telecom.



Wellington

2 Introduction

2.1 Scope of report

Under the Act the costs of meeting the TSO under the Government's Kiwi Share are to be shared between Telecom and the other telecommunications companies, i.e. Telecom bears the cost of meeting these obligations and is able to recover a proportion of them from its competitors. Section 83 of the Act requires that, unless a fixed amount is agreed between the Crown and Telecom for meeting the TSO obligation, Telecom must supply the Commerce Commission with:

- calculations of the net cost of complying with the TSO instrument during the financial year
- a report prepared by a qualified auditor that includes a statement of whether or not the calculations comply with:
  - any prescribed requirements relating to those calculations; or
  - if there are no prescribed requirements, any requirements of the Commission

within 60 working days of its financial year-end.

KPMG has been engaged by Telecom to report independently to the Commission under section 83.

The TSO instrument for these purposes is the *Telecommunications Service Obligations Deed for local residential telephone service* dated December 2001 between the Crown and Telecom. It does not specify what elements should be included in the calculations of net cost but does specify in some detail the services that fall within the TSO and the service levels that Telecom is required to maintain. The TSO relates to the supply of local, fixed-line, and residential telephone services. Clause 7 sets out the following four key principles:

- that all Telecom residential customers should have the option of free calling to local fixed line voice, dial-up internet access and fax services and a free listing of their residential number
- that the maximum standard residential rental (including the free local calling above) should remain at November 1989 prices in real terms (using CPI as the deflator)
- that rural residential customers should pay no more than the standard residential rental and that Telecom's service coverage should remain as wide as it was at the commencement date of the Telecommunications Act

- that directory assistance continues to be provided on the basis agreed in 1997, including free local directory enquiries to customers who have a disability making it difficult for them to use the printed phone book.

2.2 The Commerce Commission requirements

The Commerce Commission requirements are driven by:

- section 84 of the Act, which provides that the Commerce Commission must take certain factors into account in arriving at its determination of the net cost
- the TSO instrument, which defines the range of services covered by the TSO
- the Commission's process of issuing of draft notes on principles and practice and consultation on those drafts through receipt of submissions on those drafts and the conference with interested parties held in July 2002.

The Commerce Commission has issued a letter dated 2 August 2004 in respect of the requirements of Telecom and their audit requirements in 2004. The key excerpts from these letters are set out below in italics.

To calculate the TSO cost the Commission requires that Telecom use the versions of the Commission's HCPM and CostPro NZ model that were used in Commission's 2002/3 TSO draft determination along with the input data (including WACC) the Commission used for the draft determination. The exceptions are that Telecom is to use actual 2003/04 customer revenue data and calling volumes, and geo-coded customer locations. In correspondence with the Commission in early September 2004, it was subsequently agreed that Telecom could use the 2001 geo-coded customer locations.

The letter of 2 August 2004 includes details of the specific assumptions to be applied to the revenue calculations, which we discuss in this report.

Auditor's report

The Commission considers that to meet the section 83(b) requirement that Telecom's cost calculations comply with the requirements of the Commission, a report needs to be prepared by a qualified auditor that states whether or not:

(i) the input data supplied by the Commission has been utilised unaltered in the cost calculation; and

(ii) revenue per line information sourced from Netbits/PROBE is robust and reliable, including adjustments to account for supplementary/toll service revenue bundled with access rentals

(iv) traffic volume (call number and duration) information is robust and reliable.

The Commission also requests that the auditors report required under section 83(b) specify exactly what inputs differ and how they differ from those used by the Commission in its 2003 TSO draft determination. The Commission does not require the auditor to audit the Commission's model.

In preparing the TSO loss calculation for the year ended 30 June 2004, Telecom has used the models provided by the Commerce Commission - CostPro and HCPM (which we refer to as 'the Commerce Commission's model') - and has provided revenue information and traffic volumes as inputs.

In respect of the revenue information to be input into the Commerce Commission's model, Telecom recognises that it is considers guidance from a number of sources, principally:

1 Commerce Commission requirements from previous TSO cost calculations (ie the calculation for the periods' ended 30 June 2002 and 30 June 2003)

2 Specific correspondence from the Commerce Commission, such as the Commission's letter of 2 August 2004

3 Previous methodologies employed by Telecom in previous TSO cost calculations.

Where a different approach from that used in 2003 has been adopted, we have discussed this within the relevant sections of this report.

2.3 Telecom responsibilities

The responsibility for preparing certain inputs to the Commerce Commissions' model is with the management team of Telecom. This includes the maintenance of adequate processes to capture relevant data and internal controls.

As part of our audit process, we have requested written confirmation concerning representations made to us in connection with our audit.

3 Revenue information

3.1.1 Commerce Commission requirements

The objective of the work performed is to ensure that the revenue per line information sourced from Netbits/PROBE is robust and reliable.

3.1.2 Data information sources

PROBE is the sales and marketing information system developed by Telecom to analyse billings and is the key source of revenue data for the TSO model. The PROBE database is sourced from ICMS, Telecom's customer billing and provisioning system. PROBE provides both revenue and call duration information.

Netbits is a Telecom data repository that records call information for effective and ineffective calls originating from or transitioning the Telecom PSTN. Netbits provides duration information (by line) for calls not recorded in PROBE, principally free local calls, interconnect and internet calls.

Revenue includes the following categories, which are discussed in detail in our report:

1 TSO revenues

2 Interconnect revenue and payments

3 Indirect revenue

4 Net Xtra revenue

The items of revenue that Telecom considers should be included in the TSO cost calculation have been documented by Telecom and included as appendix one, which reflects their interpretation of the Deed, previous TSO cost calculations and is consistent with correspondence received from the Commerce Commission during 2004.

3.1.2.1 TSO revenues

TSO revenues include:

- Access line rental
- Connection revenue
- Wiring revenue
- Smartphone revenue

- Call minder revenue
- Messaging revenue
- Local calls
- National calls
- International calls
- 0800 indirect calls
- 0900 calls
- Mobile to Fixed calls
- Fixed to mobile calls
- Other revenues e.g. operator and directory assistance.

The majority of the above items of revenue are sourced from PROBE. The exceptions being residential first line access line rentals and mobile to fixed calls. This is consistent with the approach undertaken in previous years TSO loss calculations.

Access line rental revenue relating to residential first lines has been calculated using the standard rental charge per the Telecom List of Charges, as opposed to the actual amount charged to Telecom customers. This is a requirement of the Commerce Commission and is consistent with the approach in previous years. Telecom includes access line rental revenue at the standard rental rate by removing actual access line revenue and including actual volumes at the standard rate. In removing actual access line rental revenue, some smartphone and call minder revenue is lost in respect of customers who buy these services in a bundle. Telecom correct this by adjusting the revenue inputs for these products so that they agree with SAP. This approach is consistent with the prior year.

Mobile to Fixed revenue represents the airtime cellular revenue billed by Telecom Mobile in respect of Telecom mobile customers calling the Telecom PSTN. Revenue is calculated from volumes sourced from Netbits and revenue rates per minute from Telecom management accounts.

Fixed to mobile revenue is in respect of calls from the Telecom PSTN to the Telecom and non-Telecom cellular networks.

Revenue in respect of Vodafone to Telecom PSTN is included as interconnect receipts.

Mobile revenues have been provided gross i.e. exclusive of the avoidable costs of Telecoms' cellular network. The Commerce Commissions' HCPM model now includes an avoidable cost factor and we have not audited this cost factor. In previous years Telecom provided net mobile revenue, being mobile revenues less the avoidable cost of the Telecom cellular network. The avoidable cost was based on Telecoms' cellular cost model.

3.1.2.2 Interconnect revenue/payments

Interconnect revenue/payments is in respect of calls, both to and from the Telecom PSTN and other carriers' networks. Telecom has calculated interconnect revenue and payments by multiplying interconnect tariff rates by interconnect call volumes sourced from Netbits.

Interconnect revenue and payments include calling between the Telecom PSTN and Vodafone.

This methodology is consistent with the approach in previous years.

3.1.2.3 Indirect revenue

Indirect revenue is local and national call revenue that would be avoided (i.e. foregone) from a viable Telecom customer if particular non-viable customers that were called were removed from the Telecom network. The need to capture this indirect revenue impact due to disconnecting a customer requires an appreciation of the fact that once a customer is disconnected, other customers can no longer call them. Therefore, to capture this effect, national calling revenue and local calling revenue was reported not only in respect of the customer making the call, but also against the customer who received the call. The indirect revenue is an output of the Telecom TSO algorithms, which we have examined.

Telecom has calculated this revenue by multiplying the incoming volumes of on-net Telecom PSTN local and national calls by the local and national call revenue rates.

3.1.2.4 Net Xtra revenue

Net Xtra revenue represents the relevant Xtra revenue less incremental costs associated with delivering those revenues. Revenue and cost has been sourced from Xtra management accounts for the year ended 30 June 2004.

Telecom considers that Xtra is not a capital-intensive business, hence there was no requirement to model capital costs. There is however a cost of capital included in the costs, calculated applying a pre-tax cost of capital equivalent to 14% post tax to the average capital employed in Xtra (excluding goodwill). Most of Xtra costs are operating costs. Telecom has classified costs as 'avoidable' and 'not avoidable'.

For the purposes of the TSO calculation, Telecom considers the following Xtra costs to be avoidable and unavoidable:

Avoidable	*Unavoidable*
Customer set up costs	Sales staff / 0800 staff
Port costs	0800 Buy Xtra
Global gateway costs	Network management fee
Channel communications	Marketing costs
Teletech charges	Billing charges
0800 call charges	Overhead costs (excluding computer costs)
Computer costs	Business DDS/Jetstream
Global roaming costs	Business e-mail maintenance costs
Customer care salary costs	

The classification of these costs as avoidable or unavoidable is consistent with the 2003 Xtra net revenue calculation.

The allocation of net revenues as either residential or business has changed from that used in 2003. The change in allocation of net revenues as either residential or business is a result of a change in the methodology used to identify customer categories. Telecom has based the allocation on connection numbers as opposed to number of customers (the method used in 2003).

3.1.2.5 Calculation of weighted average number of lines

In requesting information from Telecom, the Commerce Commission has requested revenue per-line basis, per ESA.

Telecom has calculated the weighted average number of lines using customer connection and disconnection information. The customer line information is based on the weighted average number of active lines during the period.

3.1.3 Work performed and results

3.1.3.1 Revenue included in the TSO loss calculation

We have considered the appropriateness of the revenues included with reference to the Telecom methodology included in appendix one. This approach was developed by Telecom in 2002 based on its interpretation of the Act and additional correspondence from the Commission. We consider this methodology has been consistently applied in 2004.

In the absence of any other guidance that prescribes the revenue to be included, we consider that the application of this methodology is appropriate.

We have reviewed Telecoms' data extraction processes and, on a sample basis, agreed revenue inputs sourced from PROBE to the PROBE extract files, which are sourced from PROBE itself. We identified no exceptions and consider that the data extraction process is reliable and robust for the purposes of the TSO loss calculation.

3.1.3.2 SAP reconciliations

Telecom reconciles PROBE revenue to SAP revenue monthly. SAP is the Telecom general ledger systems used for external financial reporting. PROBE revenues represent revenue billed, whereas SAP represents earned revenue. We reviewed a sample of these reconciliations and the summary quarterly reconciliations prepared by Telecom, observing no issues.

3.1.3.3 Mobile to Fixed revenues ('MTF')

MTF revenues are calculated using Netbits calling volumes multiplied by the average revenue rate per minute as determined from Telecoms' management accounts for the year ended 30 June 2004.

We re-performed the quarterly calculations of MTF revenue, by agreeing calling volumes to Netbits and calling rates to Telecom management accounts information for the year ended 30 June 2004.

We considered the reasonableness of the calling rates with reference to Telecom management accounts and our knowledge gained as external statutory auditors.

3.1.3.4 Fixed to Mobile revenues ('FTM')

FTM revenues are sourced from PROBE. We agreed the FTM revenue to PROBE for two quarters in detail, while analytically reviewing the other quarters.

3.1.3.5 Cost of capital

Telecom supplied us with an updated cost of capital calculation that comprises an updated WACC calculation prepared by PwC in 2004 and an increment to this WACC based on a paper prepared for Telecom by Charles River Associates in 2002 that supports the addition of an increment to cost of capital to reflect idiosyncratic risks such as asset stranding (historically and in 2004 amounting to 2%).

Cost of capital is a sensitive element in the overall TSO calculation, involving a significant level of professional judgement and theoretical argument. Telecom engaged PwC to calculate a WACC to be used in the tilted annuity formula. We have read the PWC draft paper (*The Weighted Average Cost of Capital to be Applied in Calculating the Cost of the Telecommunication Service Obligation for the Period 1 July 2003 to 30 June 2004* dated 10

September 2004) on WACC and consider that the methodology used by PwC to calculate the WACC is consistent with generally accepted corporate finance practise and is consistent with the methodology used in 2003. That said, it should be recognised that professional judgement can lead to differing views on parameter estimation and therefore WACC calculation. PWC suggested a WACC of 10.1%.

The cost of capital used by Telecom is 12.1%, which comprises the WACC calculated by PWC of 10.1% and an increment to reflect idiosyncratic risks such as asset stranding, as advised by Charles River Associates in 2002, of 2%. This cost of capital is not in accordance with the requirements of the Commerce Commission and our report is therefore qualified in this respect.

3.1.3.6 Recalculation of indirect revenues

We re-performed a sample of the quarterly calculations of indirect revenue, by agreeing volumes to Netbits (via the customer-calling matrix) and calling rates to the actual direct revenue calling ratios determined for 2004.

3.1.3.7 Interconnect receipts/payments

We checked a sample of tariffs against known contractual rates and analytically reviewed the tariff rates against those used in the 2003 TSO calculation. On a sample basis we re-performed the calculation of interconnect revenues and payments using volumes sourced from Netbits.

The interconnect tariff rates used were consistent with customer contracted rates and changes were consistent with rate changes experienced by Telecom in 2004.

We note that included in interconnect net revenue is the interconnect cost paid on 0800 calls originating on other networks. In the calculation of the 2002/3 TSO loss this specific interconnect payment was excluded. The impact of this correction on the TSO loss is not material, estimated at less than $100,000 additional loss.

3.1.3.8 Net Xtra revenue

We vouched the revenue and cost information for Xtra to that reported within the Xtra management accounts for the year ended 30 June 2004, together with the adjustments made.

Revenue and cost data agreed to the Xtra management accounts for the year ended 30 June 2004, with the following adjustments, which are consistent with adjustments made in 2003:

- port costs were adjusted to reflect incremental costs, rather than transfer charges between Telecom and Xtra;

- ADSL services (Jetstream and Jet Start) have been excluded under the provisions of Section 84(2)(a) of the Act, as they are less than five years old and involve significant capital expenditure; and

- costs were split between avoidable and unavoidable cost types as noted in section 2.

We have reviewed the allocation of costs between avoidable and unavoidable and observed that rationale for determining avoidable and unavoidable costs is consistent with the TSO methodology employed in other areas of the TSO loss calculation. Costs that vary depending on customer numbers are treated as avoidable and fixed costs are considered unavoidable.

We have also reviewed the methodology for allocating net revenues between residential and business customers. Telecom consider that connection numbers provide a more accurate measure as some business customers will have multiple connections, whilst residential customers will be mostly single connections. The connections analysis is based on extracts from Telecom's information systems, which is consistent with information published in Telecom's 2004 financial statements. The change in allocation method has resulted in an increase in customers identified as business with a corresponding decrease in residential customers. In 2004 approximately 71% of customers have been identified as residential customers (2003: 87%).

Telecom has included in Xtra costs a cost of capital by applying a pre-tax WACC to achieve a post-tax WACC of 14% to the derived average Xtra capital employed in 2004. We have reviewed the calculation of the average capital employed, with reference to the Xtra management accounts. The Xtra business unit was incorporated into New Zealand Business for internal reporting purposes during 2004. As a result some cost information and capital are no longer separately reported for the Xtra business. Telecom has therefore used the capital that was separately reported in 2003 for the 2004 calculation and used the same costs reported in 2003 for avoidable overhead costs, in the 2004 net Xtra revenue calculation.

Telecom considers this approach to be conservative as the Xtra business has grown in comparison to 2003 and it is reasonable to assume overhead costs would have increased. We have reviewed the relevant overhead cost categories for New Zealand Business as a whole and note that the costs are consistent with the prior year. The following costs were included in net Xtra revenue based on their 2003 reported figures:

	$ millions
Teletech charges	11
Billing charges	4
Computer costs	4
Marketing, customer care, sales salary costs	1

In the absence of specific data available for the above costs, we concur with management's assertion that their approach is conservative and that costs are likely to be understated. Any difference between 2004 and 2003 is unlikely to be significant, in light of the relatively low spend of these costs ($20 million on Xtra revenue of $135 million and total TSO revenue of $2.4 billion).

3.1.3.9 Residential customer call plans

Certain residential customers elect to be billed by Telecom for local calls, as opposed to receiving free local calling and being billed a higher monthly rental amount by Telecom. The Commerce Commission requires that residential customers on this call plan are treated as business lines for the purpose of calculating the TSO loss.

The Commerce Commission also requires residential second lines to be included as business lines for the purpose of calculating the TSO loss.

We have reviewed the components of revenue and confirm that these call plans and second lines are correctly excluded.

3.1.3.10 Weighted average number of lines

We reviewed the calculation of the weighted average number of lines.

The weighted average number of lines was calculated with reference to the connect and disconnect dates recorded in the PROBE database. For example, if during the period in question a line had been connected for half the time, this would have a weighting of 0.5.

We have reviewed the SAS code used to calculate average number of connect days. The code calculates the average period that a line was in use during each quarter (based on connection and disconnection data) and then aggregated.

The result from this calculation of the weighted average number of lines was 95% of the gross number of lines for the year. In other words, active lines identified within PROBE were connected, on average, 95% of the time over the twelve-month period. The level of

churn from Telecom's management accounts was comparable to the above weighting used by Telecom.

3.1.3.11 Review of access rental adjustment

We reviewed the calculation to remove access line rental at actual rates that were replaced with the standard rental amount. We vouched the standard rates to the Telecom List of Charges, observing no issues.

3.2 Conclusion

Other than the cost of capital used by Telecom, we consider that the Telecom revenue inputs to the Commerce Commission's model are reliable and robust, with reference to the requests of the Commission, the approach employed in previous years and the documented Telecom methodology of revenues to be included in the TSO cost calculation.

The cost of capital is 12.1%, while the Commerce Commission in its 2002/2003 draft determination used a weighted average cost of capital of 7.4%.

4 Traffic Volume

4.1.1 Calling volumes

Netbits provides call duration information per line for those calls not recorded in PROBE, principally free local calls, interconnect and internet calls. This is consistent with the approach in prior years. Netbit volumes are sourced direct from PSTN switches. PROBE volumes are sourced from the ICMS billing system.

Traffic volume data is supplied for all call types included in the revenues per section 3.1.2.1. The extraction of this data is systems-generated, based on individual call-types.

To ensure the accuracy of the traffic volume data, Telecom reconciled call duration records between PROBE and Netbits (where comparable call volumes are also captured) and between Netbits and SAP.

Telecom reconciles durations used in the indirect customer-calling matrix to Netbits source data. Netbits data is also subject to daily, automated validation checks to ensure it is complete and accurate.

4.1.2 Indirect calling volumes

Indirect traffic volumes are system-generated from a Telecom customer-calling matrix that has modelled individual phone calls made on the Telecom PSTN. The use of a customer-calling matrix is consistent with the approach used in previous years to determine indirect revenues.

Local and national call on-net Telecom PSTN volumes are sourced from Netbits.

4.1.3 Interconnect volumes

Telecom has sourced interconnect call volumes from Netbits.

4.2 Work performed and results

4.2.1 Call volumes

We reviewed Telecoms' data extraction processes and on a sample basis agreed call volume inputs sourced from Netbits/PROBE to the Netbits/PROBE extract files, which are sourced from Netbits/PROBE. We identified no significant exceptions and observed that the data extraction process appeared reliable and robust for the purposes of the TSO loss calculation.

We reviewed the reconciliations between PROBE, Netbits and SAP. Reconciling items were observed in respect of national, fixed to mobile and local and internet volumes.

These variances are not material and are consistent with previous TSO audits and our observations in the statutory and other regulatory audits.

4.2.2 Indirect calling volumes

We reviewed the process undertaken by Telecom to populate the customer calling matrix from Netbits and identified no issues - the methodology is systematically driven based on customer calling records. The code written to populate the calling matrix effectively performs a 'look-up' of the database of lines to identify the destination of calls to ascertain the indirect calling volume for each line. The indirect calling volume of a line represents the extent to which other lines have called that line.

We observed that the call volume matrix was sourced reliably from Netbits, by reviewing the SAS code run over the Netbits database. In theory the volume of indirect minutes should agree to the volume of direct minutes. However, there is no indirect revenue for a line, that receives a call from a non-Telecom customer. These minutes are referred to as 'off-net' customers and are excluded from indirect calling volumes. Furthermore the Telecom analysis of indirect volumes excludes local intra-ESA volumes. When we compared the total of direct minutes to indirect minutes, the ratio was consistent throughout the quarters and with previous audits.

We note that Telecoms' approach to using the indirect calling volumes as an input to the Commerce Commission's model differs to the approach undertaken by the Commerce Commission in 2002/3. Telecom's approach takes the total (residential and business) indirect calling volumes per ESA and calculates a total average per line. It is not clear how the Commerce Commission determined this component of the inputs in 2002/3. We note that it is not within our scope to comment on the Commerce Commission's calculation in 2002/3, but we are required to review the Telecom approach to calculating the inputs for 2003/4.

4.2.3 Interconnect volumes

Volume data had been correctly extracted from Netbits.

5 Changes to the Commerce Commission's model

5.1.1 Commerce Commission requirements

The objective of the work performed is to ensure that the input data supplied by the Commission has been utilised unaltered in the cost calculation. The Commerce Commission has asked Telecom to run the Commerce Commission's model to calculate the TSO loss to ensure that the only information to be input by Telecom is the revenue and the FTM and incoming volume information.

5.1.2 Work performed and results

The loss calculated by Telecom using the Commerce Commission's model is $141.3 million for the year ended 30 June 2004.

We obtained the HCPM and CostPro models from the Commerce Commission, in order to re-run the TSO loss calculation.

The TSO loss calculated by the version of the HCPM model obtained from the Commerce Commission agreed with the TSO loss calculated by Telecom. We note that the HCPM and CostPro models used a cost of capital that was not prescribed by the Commerce Commission. The Commerce Commission requested that Telecom use a certain weighted average cost of capital generally. Our report is therefore qualified in this respect.

5.1.3 Conclusion

We confirm that the input data supplied by the Commerce Commission has been utilised unaltered in the loss calculated by Telecom, other than the cost of capital used in the model. Telecom has used a cost of capital of 12.1%, whereas the Commerce Commission employed a weighted average cost of capital of 7.4% in 2002/3.

6 Abbreviations

Commission	Commerce Commission
Commissioner	Telecommunications Commissioner
ESA	Exchange Service Area
LEC	Local Exchange Carrier
Netbits	Network Billing and Transaction Support. A Telecom data repository for network usage information
PSTN	Public Switch Telephone Network
PROBE	The Telecom sales and marketing information system that analyses billings
Telecom	Telecom New Zealand Limited
TSO	Telecommunications Service Obligations
TSO Deed	*Telecommunications Service Obligations Deed for local residential telephone service* dated December 2001 between the Crown and Telecom

7 Appendices

Telecom TSO methodology in respect of revenue

TSO Revenue – Inputs into the Commerce Commission's Model for the purpose of calculating the TSO loss for the year ended June 2004.

The purpose of the following discussion is to outlay Telecom's approach, and the specific inputs used, in generating the revenue per line feed as used by the Commerce Commission's Model.

The definition used to describe TSO revenues are those revenues arising from the provision of 'ordinary residential telephone services'. The current approach has been more toward identifying the revenue categories that would be avoided if a standard access line was disconnected, rather than working from a predetermined list of allowable TSO revenue types.

The concept of 'established telecommunications service', as specified in the Act, has been considered when assessing whether to exclude services. ADSL is a service that is less than five years old and involves significant capital expenditure. It has therefore been excluded from the definition of TSO related revenues. Other revenue streams such as those from mobile to mobile calls, high speed data and the sale of CPE have been excluded as they are considered to either fall outside of the suite of 'ordinary residential telephone services', or would not be effected by the removal of a standard access line.

The following tables list the broad revenue categories, and states whether or not these were included in the TSO loss calculation. Revenues discussed below are net of any discounts

Definitions

The Commerce Commission includes in the definition of business lines both secondary residential lines (residential lines that are not designated as the first line into the customer's premises), and those residential lines that have opted for the calling plan that includes a charge for local calls. Hence residential as defined here is restricted to first lines only.

TSO Applicable Revenue

Billed (Direct) Revenue

	Product	BUS	RES	Comments
Calling	0800 indirect	YES	YES	0800 revenue is generated from in-calling, and as such a need existed to take the revenue as billed and allocate it out to the caller. The reasoning being that in assessing the profitability of a customer the impact of their removal is paramount.
	International	YES	YES	This excludes any revenue not specific to a particular line, such as calling card revenues. It also excludes international wholesale / reseller revenues.
	National	YES	YES	This excludes any revenue not specific to a particular line, such as calling card revenues. It also excludes national wholesale / reseller revenue and school connection discounts.
	Other Call	YES	YES	Excludes video conferencing and phone card sales.
	Fixed to Mobile	YES	YES	
	Local Calls	YES	YES	

	Product	BUS	RES	Comments
	0900 Calls	YES	YES	
	Directory Assist	YES	YES	
Rental	Access Line	YES	YES	Line rental.
	Connections	YES	YES	
	Wiring Maintenance	YES	YES	
	Smartphone	YES	YES	
	Call Minder	YES	YES	
	Messaging	YES	YES	
	Centrex	YES	NA	Line rental and above calling products included.
	ISDN Basic	YES	NA	Line rental and above calling products included.
	ISDN Primary	YES	NA	Line rental and above calling products included.
	Other Rentals	YES	NA	DDI revenue.

Excluded Revenue

	Product	Comments
EXCLUDED	Mobile Services	Although an element of airtime revenue is included where a Telecom mobile customer calls a Telecom PSTN line, all other cellular related revenues are excluded.
	Data Services	Other than ISDN revenue as discussed above.
	Equipment and Inventory Sales	
	Directories	
	Other	Predominantly advanced solution related and mobile service delivery agreement based revenue.

Other Revenue Items Included

Incoming Call Revenue

A customer both generates and receives calls. To capture this effect national calling revenue and local calling revenue was reported not only in regard to the customer making the call, but also against the customer who received the call. Though this brings in an obvious double count (nationally) of national and local call revenues, it is required to ensure the impact on revenues of disconnecting a customer is completely captured. In calculating the TSO loss this double counting effect needs to be adjusted for. Such an adjustment does not occur in the Commerce Commission's model which we have been required to use for this calculation of the TSO loss.

Interconnect

Interconnect receipts and payments were captured on a net basis, in other words all originating and terminating interconnect traffic was captured and the specific interconnect tariffs applied. This was done on a PSTN line basis, the result being either a net interconnect receipt or payment by ESA.

Telecom Mobile Revenue

Telecom Mobile airtime revenue has been included for those calls made into the PSTN, to both business and residential lines.

Xtra Net Revenue

The avoidable revenues and associated costs were identified for both business and residential lines. Avoidable revenue amounted to 83% of total Xtra revenues, the remainder being either ADSL revenues (excluded as noted above) or revenues unrelated to a line customer, such as internet advertising revenue.

Costs

The only costs that have been included in the average line revenue data input into the Commerce Commission's TSO HCPM model are:

- the interconnect payments to other mobile carriers for terminating calls in their cellular networks that have originated on Telecom's PSTN, and
- the avoidable costs relating to Xtra, as discussed above.

All other revenues are reported gross (though net of any discounts).