# A Users Guide to the Financial Model for the 2004 Electricity Network Pricing Review

INDEPENDENT PRICING AND REGULATORY TRIBUNAL
OF NEW SOUTH WALES

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# A Users Guide to the Financial Model for the 2004 Electricity Network Pricing Review

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# TABLE OF CONTENTS

# 1 BACKGROUND

The Independent Pricing and Regulatory Tribunal (the Tribunal) is the Jurisdictional Regulator for Distribution Network Service Providers (DNSPs) in New South Wales. In this role, the Tribunal regulates DNSPs' allowed network revenues. The current determination expires on 30 June 2004. The Tribunal has given notice that the form of economic regulation that will apply from 1 July 2004 will be a weighted average price cap (WAPC). The form of the (WAPC) was set out in its *Notice Under Clause 6.10.3 of the National Electricity Code — Economic Regulatory Arrangements* issued on 25 June 2002.

The 2004 review will require the Tribunal to collect a range of information from DNSPs. The information required for the upcoming determination will be similar to that used in the 1999 network price determination to determine the building block revenue requirements. However, the development of the WAPC also requires detailed projections of the actual (lagged) and likely future demand that DNSPs will face for *each* of its individual tariffs. The Tribunal is also considering the incorporation of a quality of service incentive in the WAPC. Such an incentive would require the collection of data on historical performance against a range of quantitative quality of service measures. The information required to support such an incentive will be collected as part of the information request.

To facilitate the collection of the necessary information to support the implementation of the WAPC, the Tribunal has developed an information template. This information template is in the form of two Excel workbooks for each DNSP:

- '**Financial Projections.xls**' — which collects information on current and projected costs and other financial data for both Prescribed and Excluded services, and quality of service information.
- '**Volume and Tariff Projections.xls**' — which collects information on distribution tariffs and projected demand for each of these tariffs.

These templates are the same for all DNSPs.

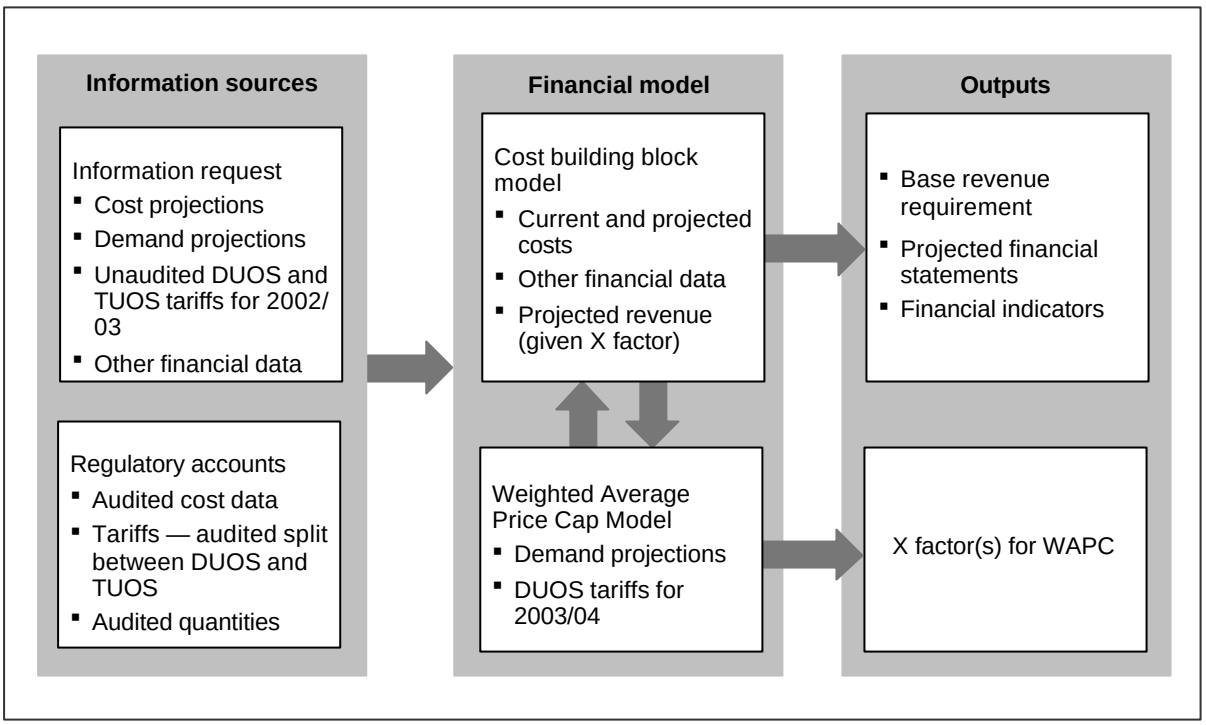
The purpose of this document is to explain the nature of information required from DNSPs and assist them to fill in the information template. This document also explains how the collected information will be used by the Tribunal. In particular, it introduces the Financial Model that the Tribunal will use to determine the WAPC. This model is in the form of two Excel workbooks:

- '**Cost Building Blocks.xls**' — which calculates the cost building blocks that comprise the building block revenue requirement, and conducts financial analysis.
- '**WAPC Model.xls**' — which calculates the key parameters that support the implementation of the WAPC.

The links between the information templates, the Financial Model and key outputs are illustrated in Figure 1.1.

The cover page of each of the models provides a guide to the purpose of each worksheet within the model workbook.

**Figure 1.1 Links between Information Request and Financial Model**




At this stage, a number of key regulatory issues have yet to be resolved. These are detailed in the Tribunal's Issues Paper. It is important to stress that the Tribunal is circulating the draft of the Financial Model to assist DNSPs and other stakeholders understand how the information that the DNSPs provide will be used and how the WAPC will be broadly implemented. The models that are provided have various built in options/functions to cover a range of decisions the Tribunal may make, following public consultation.

**The contents and structure of the model should in no way be seen as indicating possible decisions by the Tribunal on unresolved regulatory issues. Further, the models are only draft models — it is possible that further development and amendments will occur as the Tribunal works through various regulatory issues. The Tribunal will undertake full public consultation in its 2004 review.**

## 1.1 Process

This Information Request is intended to collect information to allow the Tribunal to commence its analysis for the review. This Information Request should be submitted to the Tribunal by **10 April 2003.** The Tribunal's consultant that is undertaking the total cost review will issue a separate information request. This request will need to be completed by March. While the two information requests have different purposes, the information provided by DNSPs should be consistent across the two requests.

The information collected in this review will be supplemented by information from the 2001/02 and 2002/03 Regulatory Accounts. The Tribunal may also issue a supplementary information request in September 2003, if required.

The contacts for the network price review are Fiona Towers, Director Energy (02 9290 8420) and Anna Brakey, Project Leader 2004 Review (02 9290 8438). Questions relating to the financial model or the information request workbooks should be directed to Bee Thompson (02 9290 8496).

# 2 THE COST BUILDING BLOCKS

The implementation of a WAPC requires a notional revenue requirement that the WAPC will target.[1] The Tribunal indicated in its *Notice Under Clause 6.10.3 of the National Electricity Code — Economic Regulatory Arrangements* that it will undertake a building block approach to determine the revenue requirement and that it may supplement that analysis with some benchmarking analysis. The Tribunal has developed a Building Block Revenue Model to estimate the revenue requirements for the 2004 regulatory period.

The building block revenue requirement is determined as the sum of estimated efficient operating and maintenance costs, depreciation (return of capital) and a risk adjusted return on capital. Tax payable by the DNSP also forms part of the building block revenue requirement. This could be captured either implicitly as part of a pre tax rate of return on the Regulatory Asset Base (RAB) or as an explicit building block item if a post tax rate of return is adopted (this issue is discussed further below under 'rate of return').

This section briefly describes the form of building block model and identifies the information that the Tribunal will require from DNSPs to support it. Throughout this section, there are a number of boxes containing Modelling Notes that contain the technical detail of the model, referring to the Excel workbook that implements the model.

## 2.1 The Building Block Revenue Model

The Building Block Revenue Model is detailed in the '**Cost Building Blocks.xls**' workbook. Currently the model includes analysis for the period up to the 2008/09 financial year. However, the Tribunal has yet to decide the duration of the 2004 regulatory period. The Code requires a minimum of 3 years.

The building block revenue requirements will be based upon the costs that the DNSPs incur in providing Prescribed Distribution Services only.[2]

### 2.1.1 The regulatory asset base

*Roll forward of RAB from the 1999 regulatory period*

The roll-forward of the RAB from 1997/98 to 2003/04 will occur after the completion of the total cost review. However, to assist the Tribunal's analysis, the financial model will estimate the rolled-forward RAB based upon information provided by the DNSPs in their Regulatory Accounts and in response to this Information Request. Following the completion of the prudency review, this estimate will be adjusted based upon the Tribunal's decision regarding prudent capital expenditure.

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1 Actual revenue will be determined by the tariffs that the DNSPs set, subject to the WAPC and other constraints on prices the Tribunal may impose, and the actual level of sales.

2 See the Issues Paper for a discussion of the process defining prescribed distribution services.

The estimated RAB is rolled forward from the previous regulatory period within the '**Cost Building Blocks.xls'**. The methodology for rolling forward the RAB is as follows.

- Assets are rolled forward from the 1998 opening value at the level of asset classes such as sub-transmission lines and cables, distribution lines and cables etc. The opening values of assets are the initial capital values at 30 June 1998 upon which the Tribunal based its Determination for the 1999 regulatory period, less any contributed assets, allocated across asset classes. The opening value is adjusted in the following manner to arrive at the closing value or rolled forward asset base for each year:
  - any prudent capital expenditure/capital additions (net of capital contributions) are added
  - the opening value plus 50 per cent of prudent capital expenditure/capital additions less 50 per cent of disposals indexed for inflation
  - disposals and depreciation are deducted to generate the closing value of the RAB for the year (which becomes the opening balance for the next year).
- Depreciation is calculated as straight line depreciation. All assets are depreciated with the exception of land, easements, emergency spares and work-in-progress (WIP). In the case of existing assets, depreciation is calculated on:
  - the indexed undepreciated value of assets less any disposals[3], where indexation includes a portion of the value of disposals each year (with the portion determined by a parameter set by the user and intended to reflect the time that assets were on the books of the DNSP — default value is 50 per cent) plus
  - a portion of the value of disposed assets (with the portion as above).
- For new assets (prudent expenditure during the regulatory period), depreciation is calculated on the accumulated undepreciated value of new assets at the start of the year, plus a percentage of additions in that year (default value is 50 per cent). The opening value plus a specified percentage of additions is indexed for inflation each year.

The information required to roll-forward the RAB will progressively become available over the next 12 to 15 months. Unaudited data for 2002/03 on asset disposals etc will be available in August 2003 in the Regulatory Accounts.[4] In the meantime, the Tribunal will work with DNSPs' estimates provided in the Information Request. The results of the total cost review, which will be completed by mid 2003, will allow the Tribunal to adjust the actual (historical) data for prudency if required. Since audited data for 2003/04 will not be available in time for the 2004 Determination, the Tribunal will use estimates of capital expenditure, asset disposals, etc for 2003/04 in the RAB roll-forward.

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3 The undepreciated value of disposals for each asset class is estimated as follows:
(depreciated value ÷ remaining life of assets at the beginning of the period × expected life of assets).

4 Audited data will not be available until mid-October.

**Modelling Note**

The 'RAB' worksheet in '**Cost Building Blocks.xls'** rolls forward the RAB to 2004, based on the initial 1997/98 RAB and data on prudent capital expenditure and disposals over the period to 2004.

Actual capital expenditure, sourced from the regulatory accounts, is used for the period 1 July 1998 to 30 June 2002. Since the roll forward is based on prudent capital expenditure, these amounts can be adjusted by the Tribunal in table RAB 3, rows 140 to 159. Projected capital expenditure for total system and non-system assets is entered for 2002/03 and 2003/04 in rows 169-170. However, actual capital expenditure, sourced from the regulatory accounts, can be used when it becomes available by indicating in row 26 that actuals will be used. The adjusted capital expenditure is recorded in the 'Calculations' section between rows 296 and 317. For the years when only projected information is available (2002/03 and 2003/04), the model disaggregates projected total system and non-system capital expenditure into the various asset types on the basis of historical average shares. This disaggregation also occurs between rows 296 and 317. Historical average shares are calculated in column D and the totals are disaggregated in columns K and L. When actual capital expenditure for 2002/03 is available, column K will import actual capital expenditure by asset class.

The default value of asset disposals is the proceeds from the sale of assets, imported from the Regulatory accounts (historical) and the agency's projections (2002/03 and 2003/04). These default values may be over-ridden by the user in row 176. The model disaggregates the total asset disposals based on *either* the regulatory value of asset disposals by asset class provided in the regulatory accounts, *or* the book value of disposals by asset class provided in the regulatory accounts, *or* if neither sets of information have been provided, the share of each asset type in the 1997/98 asset base. This occurs between rows 324 and 345.

Other inputs are the actual and expected inflation used to roll forward the RAB; and the proportions of disposals and capital expenditure that are inflated and depreciated in a year (Table RAB 1). Capital contributions by asset type are sourced from the regulatory accounts, (see Table RAB 5), and are used to calculate the default adjustments to the 1997/98 RAB for capital contributions by asset type (Table RAB 2 column L).

The roll forward for each asset type is calculated from row 350 onwards.

Tables RAB 6 to RAB 8 summarise the results of the RAB roll forward by asset type and asset category for the years 1997/98 through to 2003/04.

### *Estimated roll forward of RAB during 2004 regulatory period*

The RAB is rolled forward during the 2004 regulatory period within the Financial Model on the 'Reg Assets' worksheet of **'Cost Building Block.xls'**. The roll forward is done at the level of 'system' and 'non-system' assets — consistent with the level of detail in the forward projections. The model allows adjustments to be made to the opening value of the RAB to reflect, for example, removal of assets used to provide excluded services from the RAB. The model has an explicit allowance for the cost of working capital.

The opening value of system and non-system assets is rolled forward in a manner similar to that described above for the RAB during the current regulatory period. In the case of disposed assets, the user is required to determine the split between system and non-system assets (the default value is currently set at the historical average or 20 per cent system assets if there are no historical disposals, for illustrative purposes). Depreciation is calculated on the undepreciated value of assets (system and non-system) with the exclusion of land, easements and WIP. Assets are indexed for inflation.

Data on projected capital expenditure is sourced from the '**Financial Projections.xls'** workbook.

The model also has a facility to test the sensitivity of the derived cost building blocks to variations in the value of projected capital expenditure.

**Modelling Note**

**Opening value of RAB and assumptions**
The RAB is rolled forward from 1 July 1998 to 30 June 2004 and again from 1 July 2004 within the '**Cost Building Blocks.xls'** workbook. Table A.5 on the 'Assumptions' worksheet allows the Tribunal to accept the (adjusted) rolled forward RAB to 2004 or to enter an alternative RAB. The choice of RAB to be used in the building block calculation is made in cell M200. The default (1) is to use the (adjusted) rolled forward RAB.

Table A.6 on the 'Assumptions' worksheet details the average asset life and the remaining asset life for the range of asset types, consistent with the asset values contained in Table A.5. The user is required to enter alternate asset lives in the blue columns consistent with any alternate valuation approach used in Table A.5. Given the assumed remaining asset lives, the expected asset lives are imputed from the undepreciated asset values and the written down asset values in Table A.5, assuming straight line depreciation.

Table A.8 on the 'Assumptions' worksheet records the CAPEX assumptions used in the model, giving the user the option of using the agency's CAPEX projections imported from **'Financial Projections.xls'** workbook (see below) or the other CAPEX projections entered between Rows 305 and 326. The choice of CAPEX assumptions is made in cell D283 on the 'Assumptions' worksheet.

Assumptions about projected asset disposals are made in Table A.8 between rows 334 and 343. The default is to use the agency's projections of proceeds from the sale of assets. The user can also enter a value for the proportion of disposed assets that are system assets are entered in row 342. The default value for this parameter is indicated in row 343.

**RAB roll forward**
The 'RAB' worksheet rolls forward the asset base from 1998, and the 'Reg Assets' worksheet details the roll forward of the RAB within the regulatory period (between rows 69 to 128). The latter occurs at the level of system assets (rows 71 to 97) and non-system assets (101 to 128). The same methodology is used on both worksheets.

### 2.1.2 Working capital

The model contains an explicit allowance for the cost of working capital. The model estimates a reasonable level of working capital for each DNSP based upon a simplified payment cycle approach. Specifically, this is based upon the amount of time that payments (based upon operating and capital expenditure) and receipts (network revenue) are outstanding. Payments are split between prepayments, trade creditors and accruals while receipts are split between receivables and accrued revenue. The calculation also adds in the value of inventory (which is also based upon the level of capital and operating expenditure). The model requires the user to input estimates of the number of days on average these items are outstanding.

**Modelling Note**

Working capital comprises receivables, accrued revenue, inventory, prepayments less trade creditors and accruals. The user can choose whether to include working capital in the RAB in Table A7 on the Assumptions worksheet (cells D267 and D268). The model calculates permitted working capital based on numbers of days of revenue or operating and capital expenditure (OPEX and CAPEX), as specified on the Assumptions worksheet (rows 270-275).

Actual historical working capital in excess of (or less than) permitted working capital is recorded in 'other assets' and 'other liabilities' in the Statement of Financial Position.

The calculation of working capital over the regulatory period occurs between rows 39 and 61 on the 'Other calcs' worksheet.

### 2.1.3 Rate of return

The Tribunal has reviewed the calculation of the Weighted Average Cost of Capital (WACC) — the return on capital — for the various industries it regulates. As discussed in the Issues Paper[5] the Tribunal is inclined to adopt a pre-tax, real WACC based upon the statutory tax rate. The model was built in advance of the Tribunal's consideration of the appropriate form of the WACC and so has built in a number of options for the presentation of the WACC.

The model is built around a real rate of return and has an option to adopt a pre or post tax rate of return. The model also has provision for the user to adopt:

- the statutory tax rate
- an effective tax rate proposed by the user.

Given its inclination to adopt the statutory tax rate, the Tribunal is *not* collecting information relating to the calculation of an appropriate effective tax rate.

**Modelling Note**

**Pre versus Post Tax WACC.** The user can choose between a pre or post tax rate of return on the RAB on the 'Decisions' worksheet of **Cost Building Block.xls**. Cell D17 allows the user to specify a pre tax return (A) or post-tax return (B) and to enter the assumed value for this return. The default option is a pre tax rate of return (A). If a post tax option is selected, tax payable forms an explicit element of the cost building blocks (see Row 22 of the 'Revenue' worksheet).

**Statutory versus Effective Tax Rates.** If a post tax rate of return is adopted, tax payable becomes a component of the cost building blocks. The model provides for tax payable to be calculated using (A) the Statutory Tax rate or (B) an Effective Tax rate entered by the user. This choice is made on the 'Decisions' worksheet at Rows 22 to 24. The default option is the Statutory Tax rate (A). If a post-tax rate of return is to be adopted, the user is required to enter assumed values for proportion of franking credits attributed value by the shareholder (row 25). The tax allowed as a cost is reduced in proportion to this value.

If a pre-tax rate of return is adopted, the model uses calculated tax payable, based on option A or B, for cash flow and ratio analysis only.

### 2.1.4 Calculation of tax payable

In the case of a pre-tax rate of return, the DNSP's tax liability does not form an explicit cost building block. However, if a post-tax rate of return is chosen in the model, a cost building block is added to the calculation of the notional revenue requirement. The tax calculation underlying the building block is detailed on the 'Other calcs' worksheet of the building block model spreadsheet. The broad structure of the tax calculation is as follows:

- tax expenses comprising operating costs, depreciation and net interest are calculated
- these expenses (plus any losses incurred during the regulatory period) are deducted from building block revenue to arrive at taxable income
- the tax payable is based upon the taxable income and is calculated using the assumed taxation rate (statutory or effective tax rate)
- any allowance for franking credits is deducted to arrive at the net tax payable by the DNSP, which forms the tax building block.

5 IPART, *Issues Paper: Regulatory arrangements for the NSW Distribution Network Service Providers from 2004,* DP58, November 2002.

**Modelling Note**

The tax calculation is detailed between rows 65 and 125 of the 'Other calcs' worksheet. The various assumptions about the tax rate, franking credits and capital contributions are imported from the relevant section of the 'Assumptions' worksheet (see discussion under rate of return for entering required parameters). No user input relating to the taxation calculation is required on the 'Other calcs' worksheet.

The assumed tax rate (statutory/effective) is reported in row 65 of the 'Other calc' worksheet. When a pre-tax rate of return is adopted, this rate is set to zero and no tax building block is calculated. The calculated tax building block is reported in row 84 and is linked to row 22 on the 'Revenue' worksheet.

### 2.1.5 Depreciation

An allowance for depreciation (return of capital) is a component of the building block revenue requirement. This allowance is calculated as a part of the roll forward of the RAB described above.

In the 1999 Determination, the Tribunal determined to provide scope for alternative depreciation profiles in the future where these can assist in managing market risks and managing variations in the prices of new investments. These alternative depreciation profiles should be net present value neutral with respect to the straight line depreciation applied in the cost model. DNSPs should be aware that, while the model currently only allows for straight line depreciation, this does not preclude alternative depreciation profiles being adopted for the 2004 regulatory period. The Issues Paper discusses alternative depreciation profiles.

### 2.1.6 Operating and maintenance expenses

In the financial model, operating expenditure relating to Prescribed Distribution Services includes:

- network operating costs
- network maintenance costs
- other costs such as customer service, advertising and promotion, FRC costs, demand management and other operating expenses

and, at this stage, the following potentially excluded services:

- metering costs
- public lighting
- additional costs of non-standard services.

Line costs (that is, Transmission Use of System charges and Inter Distributor Transfer payments) do not form part of operating and maintenance costs. These are treated as 'pass through' costs.

The ACCC regulates transmission assets in New South Wales. The Tribunal understands that the ACCC recently sought to establish whether any distribution assets are more appropriately classified as transmission assets. The outcome of this process is that only EnergyAustralia has transmission assets that may be excluded from the asset base regulated by IPART. There is, therefore, provision for EnergyAustralia to exclude the operating and maintenance costs associated with these transmission assets.

The model allows the Tribunal to adopt either the Agency's expenditure projections or alternative estimates determined by the Tribunal.

**Modelling Note**

Data on operating expenses and projections are imported from the '**Financial Projections.xls'** workbook into the **Cost Building Block.xls** model on the 'P import' worksheet. The profile of projected operating expenditure is summarised in Table A.9 on the 'Assumptions' worksheet. The Tribunal can choose between using either the Agency's projections (rows 354 to 363) or its own estimates that are directly entered between rows 367 and 380. The choice of option is made in cell D350. The default option is to use the Agency projections.

The user can test the sensitivity of building block revenue results to variations in operating expenditure by adjusting the variation parameter contained on the 'Decisions' worksheet Table D.3.

### 2.1.7 Summarising the building block revenue requirement

The estimation of the various building block (notional) revenue components are drawn together in Table R.1 on the 'Revenue' worksheet of the '**Cost Building Blocks.xls**' workbook.

### 2.1.8 Financial Statements and financial ratios

The '**Cost Building Blocks.xls**' workbook also produces regulatory financial statements, cash flows, financial ratios and financial ratings. These provide further analysis of the adequacy of the notional revenue. Financial Statements are provided on the 'Financial Statements' worksheet, and the ratios are calculated on the 'Reports' worksheet. The latter worksheet also provides a summary of the RAB, the revenue build-up, projected cash flows and other performance measures.

**Modelling Note**

The financial statements and ratio analysis may use either the 'building block' revenue, or the projected revenue from the Weighted Average Price Cap (WAPC) model after revenue smoothing (see Section 4 below). The choice is made on the 'Decisions' worksheet (cell D32). If a 'B' is entered into this cell, the model will use the revenue entered in row 37. This revenue must be copied and pasted from the WAPC model, or the user may wish to link the workbooks.

# 3 INFORMATION REQUIRED FROM THE DNSPS RELATING TO THE COST BUILDING BLOCKS

The '**Financial Projections.xls**' workbook details the range of data and projected data required by the Tribunal to implement the cost building block model. The Tribunal requires projections relating to:

- general financial information of the DNSP and
- the DNSP's over and under-recovery account.

## 3.1 Growth assumptions

DNSPs are requested to provide estimates based upon low, medium and high growth scenarios. The medium growth scenario should be the DNSP's view of the most likely scenario. The projections provided for these growth scenarios should be consistent with volume and customer number projections provided to support the WAPC (see chapters 4 and 5 for discussion) and with the total cost review. DNSPs should describe the assumptions underlying the three growth scenarios in the '**Volume and Tariff Projections.xls'** workbook (as discussed in chapter 5).

## 3.2 Service quality assumptions

The Tribunal is considering the inclusion of an explicit service quality related financial incentive in the regulatory framework for the 2004 regulatory period. This incentive would reward or penalise DNSPs for improvements or deteriorations in service quality standards from current levels. For the purposes of this information request, quality of service relates to reliability. DNSPs should understand current levels as meaning the average level of reliability over the current determination period.

For the Tribunal to implement such a service quality incentive mechanism, it needs to know how much extra building block revenue a DNSP would require for it to improve the level of reliability. The information request therefore asks for cost information under two alternative service quality scenarios — maintaining current standards and an alternative service standards specified by the DNSP. The additional costs allowed for under this alternative service quality standard would reflect the minimum reward required by DNSP for them to *decide* to undertake projects with the objective of improving reliability.

The financial information provided by the DNSPs under the three alternate growth scenarios **should assume that current service standard levels are maintained.** From a practical perspective, these base case projections should only include expenditure that does not have quality improvement as a primary objective. The Tribunal recognises that expenditure aimed at replacing assets that have reached the end of their economic life might result in improvements in reliability as an additional benefit. However, if the primary purpose of this expenditure is to replace old assets then this should be viewed as maintaining current standards. Expenditure for which the primary objective is to improve reliability across the network, or in a particular part of the network, should be excluded from the base case projections.

However, DNSPs may provide financial information under three growth scenarios using an alternate standard of service. For example, if a DNSP's business plan is to upgrade its standard of service, it should provide the revised financial information in the '**Financial Projections.xls**' workbook associated with this higher alternate service quality level. That is, the financial projections for the alternate standard scenarios should include expenditure for which the objective is raising standards above their current levels.

Where a DNSP has no choice but to replace an old asset with a new asset that also improves reliability, then the full cost of this asset should be included in the base case projections. This reflects the fact that the driver of the decision to purchase the asset is to replace an old asset to maintain at least the current standard of service. The DNSP would require an allowance equal to the full cost of the asset in order to make this investment but no additional incentive is required to achieve the increase in reliability.

In situations where the DNSP would have a choice of replacing an old asset with a new asset that maintains current standards, but prefers to use a more expensive asset with a view to also improving reliability, then the incremental cost of the more expensive asset over the cheaper one should be excluded from the base case cost projections. By way of example, if the cheaper asset cost $80 and the reliability-improving asset cost $100, then the incremental cost of obtaining higher standards of reliability of $20 should be excluded from the base case projections. The incremental cost of $20 should be included under the alternative service standard scenario (discussed below). In this case, the DNSP only requires $80 to maintain current service standards but would require an additional $20 to improve service quality. Only the $20 would be included as part of a service quality incentive payment.

The Tribunal has yet to decide upon the level of service that it will assume in developing the building blocks if a service incentive mechanism were not introduced. That is, it may allow additional revenue to finance improvements in service quality in the building blocks rather than assume no change in service quality. These issues will be resolved as the Tribunal works with stakeholders on the development of possible models for the treatment of service quality.

### 3.2.1 Measuring the quality improvement

As part of the 2004 determination, the Tribunal will be seeking to make transparent what service quality outcomes are being supported by the expenditures allowed for in the cost building blocks. This transparency will require the quantification of current service standards. Further, such quantification would be necessary if the Tribunal were to introduce a service quality incentive mechanism.

Ideally, service quality information should be collected at a reasonably disaggregated level. The Tribunal has indicated that it would like to monitor performance using the Standing Committee on National Regulatory Reporting Requirements (SCNRRR) network sub-categories of:

- CBD.
- Urban.
- Rural—long.
- Rural—short.

However, the Tribunal understands that DNSPs' information systems may not currently support such a level of detail. The Tribunal recognises that DNSPs are currently working toward improving their reliability monitoring and reporting systems and that more disaggregated data might be available prior to the release of its draft determination. The Tribunal has indicated that it will work with DNSPs and other stakeholders to develop a reporting framework that could support a service quality mechanism, or at least provide a robust quantitative measure of what standards are being supported by the building block costs it allows.

The information request includes a draft template for signalling the type of quality related information that the Tribunal would like to collect from DNSPs before issuing the draft report. **DNSPs ARE NOT REQUIRED TO FILL THIS DRAFT TEMPLATE OUT**. This should be treated as a draft for illustrative purposes only. The Tribunal will work with stakeholders to finalise this request through the Services Standards Consultative Group.

In light of the limitations of available data, the Tribunal is collecting only limited quality of service information in this information request. The required data relates to the changes expected under any alternative quality of service scenarios proposed by the DNSPs. Specifically, the Tribunal requires for each service quality (reliability) related project or group of projects:[6]

- identification of the feeders that will be affected by the work
- the number of customer for whom reliability of service will be affected
- the likely change in the feeder's SAIDI, SAIFI and CAIDI measure, and the overall impact on the DNSP-wide SAIDI, SAIFI and CAIDI measures
- the likely cost of the project.

This information should be recorded in the '**Financial Projections.xls**' workbook on the 'Standards' worksheet.

**Filling out the information request – Standards of Service**

The information on the impact of service quality related projects should be entered in Table 3.1 on the 'Standards' worksheet of the '**Financial Projections.xls'**. This section is compulsory only for those DNSPs that have opted to include financial projections for an alternate standard of service. Additional rows may be added to Table 3.1 if required.

DNSPs are requested to identify for each project (or group of projects):

- the feeder(s) affected by the project and their identification numbers
- the estimated number of customers affected by the project
- the impact on reliability measures for the feeder and the DNSP's overall network — please include the current level for the measure and what it is expected to be after the project is completed
- the likely cost of the project(s).

The information template also has provision for DNSPs to include other measures that might more accurately reflect the objectives of the project in terms of impact on service quality. These measures should be included in column O if required.

The draft information template (discussed above) is included from row 29 onwards. DNSPs should **not** complete this.

[6] If DNSPs are proposing a lower standard of service, then they are required to identify the projects which are included in the base case projections but would not be undertaken under the alternate scenario.

## 3.3 Financial information

The financial information requirements are detailed on the 'Low Growth', 'Medium Growth' and 'High Growth' worksheets of the '**Financial Projections.XLS**' workbook. DNSPs are required to provide projections out to 2008/09 for:

- DNSP assumptions about future inflation, reflecting the assumptions built into all nominal projections except capital expenditure (Table 1.1). (The inflation assumed in capital expenditure projections is entered in Table 1.6, and may be zero if capital expenditure is projected in real terms)
- expected revenue from non-tariff sources — for example, IDT receipts, monopoly fees, miscellaneous charges, pole rentals,[7] etc (Table 1.2)
- expected costs —Transmission Use of System charges, operating and maintenance and Inter-Distributor Transfers (IDT) payments (Table 1.2)
- selected items on the Statement of Financial Position (Table 1.3)
- aggregate customer and energy supply numbers (Table 1.4)
- breakdown of operating and maintenance costs (Table 1.5), and
- capital expenditure (Tables 1.6 and 1.7).

A Full Statement of Financial Performance and Statement of Financial Position are requested for 2002/03. DNSP's are requested to provide *estimated* Statements in April 2003 to allow the Tribunal to commence analysis. Provisional (or final) regulatory accounts data will be substituted when these become available.

In addition to these projections, the information request also asks for:

- proportion of assets in the RAB relating to potentially Excluded services such as customer metering and load control and public lighting, and (for EnergyAustralia) transmission assets (Table 1.8)
- interest rates on investments and borrowings (Table 1.9)
- assumptions affecting the value of working capital and other assets and liabilities (Tables 1.10 and 1.11).

Tables 1.5, 1.6 and 1.7 ask for information on operating costs, capital expenditure and capital contributions to be separately identified for prescribed services and services such as metering, public lighting and non-standard services that might be 'Excluded services'. The list of excluded services in Table 1.7 reflects the list of services that *might* be classified by the Tribunal as Excluded services and reflects the list outlined in the Tribunal's Discussion Paper for the Review of Prescribed Distribution Services.[8] The information request has been prepared in advance of the completion of the Tribunal's review and does not reflect the Tribunal's thinking on what constitutes a Prescribed Distribution Service. Table 1.7 should report only the (potentially) excluded portion of capital expenditure.

Since only EnergyAustralia has transmission assets that may be excluded from the RAB, only this DNSP is asked to separately identify expenditure and assets values related to transmission assets.

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7 That is, rentals for the use of a DNSP's poles by other businesses such as telecommunications firms.

8 IPART, *Review of Prescribed Distribution Services: Discussion Paper*, Discussion Paper DP54, June 2002.

**Filling out the information request — Financial information**

The '**Financial Projections.xls**' workbook contains three sheets for recording financial data under low, medium and high growth scenarios. Data is required in all 11 tables on these worksheets ('Low growth', 'Medium growth' and 'High growth'). The yellow shading indicates compulsory information, while green shading indicates optional information that DNSPs may provide. Grey shading indicates that information is not required and will be calculated by the '**Cost Building Blocks.xls**' model. These sheets should be completed assuming that *current service standards are maintained.* The tables in the worksheet are largely self-explanatory and generally in line with corresponding tables in the Regulatory Accounts. However, the following points should be noted.

- In Table 1.1, if projections other than capital expenditure are in real terms, please enter zeros as projected inflation.
- If capital expenditure projections are in real terms, please enter inflation as zero percent in Table 1.6.
- In Table 1.4, projections for demand and customer numbers will be linked to the 'Volume and Tariff Projections.xls' workbook totals. This provides a check that the demand estimates that underlie the financial projections are the same as those that have been provided to estimate the X factor.
- Table 1.5 is largely in line with the Regulatory Accounts. However, data on the demand management, metering costs, public metering and additional costs of non-standard services have to be separately identified. EnergyAustralia is also required to separately identify Transmission OPEX (item H).
- In Table 1.6, EnergyAustralia must separately identify CAPEX on potential transmission assets.

The **Financial Projections.xls** also duplicates the low, medium and high growth worksheets for an alternate standard of service. DNSPs wishing to provide financial information for higher or lower standards of service should complete these sheets. The description of how the alternate service quality standard differs from the current service standard should be recorded on the 'Standards' worksheet.

## 3.4 Over and under recovery account

The 'U_O Recovery' spreadsheets in the '**Financial Projections.xls**' workbook are related to the DNSP's Over and Under Recovery account projections. The account balance at the end of the year is calculated in the same manner as in the regulatory accounts.

**Filling out the information request — Over and Under Recovery**

DNSPs are requested to provide data on the various components over and above the base revenue that comprise the Annual Aggregate Revenue Requirement (AARR). There are three 'U_O recovery' worksheets for each of the low, medium and high growth scenarios. This data is to be recorded in rows 13 to 21 of the 'U_O recovery' worksheet. Please note that Tribunal approval is required for avoided TUOS and demand management costs to be included in the AARR and that only the contestability costs as determined by the Tribunal are to be included.

The various elements that make up total regulated network revenue (row 51) are sourced from the corresponding financial data projection sheet. DNSPs are requested to enter information on adjustments to revenue from network prices (row 42), other regulated revenue (row 50) and any offsetting items affecting over/under-recovery (row 56). Explanations for these items should be included in the comment column.

# 4 THE WEIGHTED AVERAGE PRICE CAP

As set out in the *Notice Under Clause 6.10.4 of the National Electricity Code — Economic Arrangements*, the Tribunal will be implementing a WAPC of the form:

$$1 + CPI - X \geq \frac{\sum p^t q^{t-1}}{\sum p^{t-1} q^{t-1}} \qquad (4.1)$$

This form of regulation will allow DNSPs to set their own tariffs, subject to the overall constraint of the WAPC and any limits on price movements that the Tribunal may impose. The Issues Paper discusses the use of price rebalancing constraints.

The WAPC will be set with reference to the cost building block revenue requirements, as discussed in section 2. The X factor plays a critical role in this process. In the absence of other factors in the WAPC, the X factor determines the real rate of change in *average prices*. The X factor will be used to calibrate weighted average price changes that deliver revenue requirements, which are established using cost building blocks (net of regulated revenue from other sources such as monopoly fees and miscellaneous charges).

At this stage, the Tribunal has yet to specify the detailed methodology for determining the value of the X factor. The WAPC Model accompanying this paper has options for a number of different approaches for calculating the X factor. The following sections discuss three possible methodologies that the Tribunal could use in its Determination and describes how they are implemented in the WAPC model. The Tribunal has indicated that it might also take account of other factors in setting the limit on average price increases. The final section describes what other factors might be included in the WAPC.

## 4.1 The WAPC Model

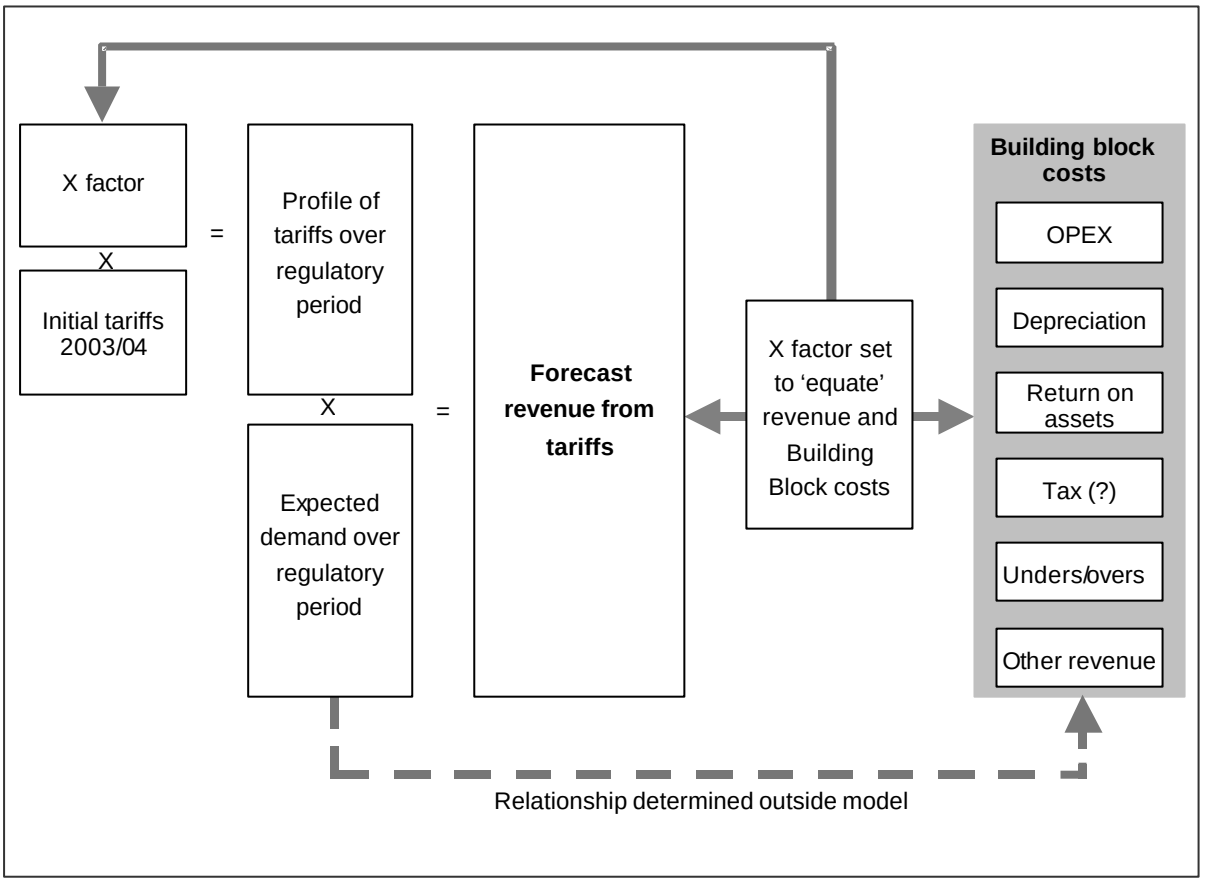
The WAPC Model calculates the X factor via a number of different methodologies. Figure 4.1 illustrates how the X factor is determined within the model. Initial tariffs for 2003/04 will be imported into the WAPC Model. A profile of tariffs over the regulatory period is determined by reducing the tariffs each year, in real terms, at a rate determined by the X factor (a negative X factor means that tariffs increase in real terms from year to year and a zero X factor leaves tariffs constant in real terms).

Given this profile of tariffs over the regulatory period and projected annual throughput by tariff class, a profile of expected revenue flows is determined. Depending on the methodology used to determine the X factor, the X factor is adjusted to change the profile of tariffs to generate a revenue stream that is 'equal' to the building block revenue requirement as determined by the building block cost model.[9] As discussed below, a number of different methodologies for 'equating' expected revenue and building block costs are possible.

[9] The building block costs presented in Figure 4.1 are indicative only – as discussed in the Issues Paper, the treatment of items such as the residual Unders/and Overs account balance has yet to be determined by the Tribunal.

It is worth emphasising that the projected demand will also influence the size of the building block revenue requirement (through changes to operating and capital expenditure). However, these linkages are determined outside the model. Individual DNSPs must ensure that their operating and capital expenditure estimates are consistent with the demand projections provided in the Information Request workbook and the total cost review (see below).

**Figure 4.1 Broad structure of WAPC model**




## 4.2 Calculation of the X factors

The WAPC Model workbook allows the calculation of the X factor by a number of different methodologies. The three presented in the model are illustrative only. The Tribunal may consider alternative methodologies through public consultation processes as part of its network pricing review.

### 4.2.1 NPV approach with single X factor

Under this approach, there would be a common X factor for all years in the regulatory control period. The X factor would be set to equate the net present value (NPV) of forecast nominal revenue with the NPV of the nominal building block revenue requirement over the regulatory period. The discount rate applied in the net present value calculation is the nominal WACC since the cashflows are all in nominal terms. Since DNSPs accrue revenue and costs over the year (rather than at a single point in time), the NPV calculation assumes all flows occur in the middle of the year.

The absence of a P–nought adjustment means that there will be a smooth transition in prices and more stable revenue flows for DNSPs. Over the full regulatory control period, the revenue collected under this approach would be equal to the building block revenue requirement.

**Modelling Note**

To enact the NPV approach with a single X factor, select '1' in cell C11. The relevant information relating to the X factor calculation is contained in rows 35 to 49 of the 'X factor calculation' worksheet.

The X factor is calculated by clicking on the 'Calculate X factor' button in row 46. This launches a macro that determines the X factor that equates the Net Present Value of forecast revenue with the Net Present Value of the building block revenue requirement over the full regulatory control period. The discount rate applied in the net present value calculation is the nominal WACC since the cashflows are all in nominal terms. The calculated X factor is reported in cell C48 and replicated in cell C15.

*Interpretation of example*
The calculated X factor in the example is 2.9 per cent, suggesting an average annual real reduction in prices of 2.9 per cent is required over the regulatory period.

### 4.2.2 NPV approach with P–nought adjustment

Under this approach, the Tribunal would determine two X factors for the regulatory control period. The first, $X_0$, would apply in the first year only. This factor would determine the P-nought adjustment — that is, the initial change in prices required to bring the regulated business's revenue into line with the estimated building block revenue requirement in the first year.

The second X factor, $X_1$, would apply in the remaining years of the regulatory control period. Two approaches to calculating $X_1$ are possible. The first would be to set $X_1$ at a level that equates the NPV of forecast revenue over the regulatory control period, with the NPV of estimated building block revenue requirement.

The alternative approach, which was adopted by the Essential Services Commission (ESC) in Victoria, would be to determine the $X_1$ outside of the model. In this case, $X_1$ could be based upon factors such as benchmark estimates of likely productivity improvements or a smoothing factor. The ESC selected a 1per cent X factor that was intended to provide a relatively stable price path over the regulatory period. When $X_1$ is determined outside of the model, $X_0$ could be set to equate the NPV of forecast revenue over the regulatory control period with the NPV of building block revenue requirement.[10]

The implications that the various methods of setting the X factor have for incentives for seeking efficiency gains are discussed in the Issues Paper.

[10] In this situation, it would be difficult to interpret $X_1$ reflecting likely productivity improvements since productivity improvements are likely to be factored into the calculation of the building block revenue requirements. $X_0$ would then capture some of these productivity improvements up front.

**Modelling Note**

The user can specify the desired approach for calculating the X factor on the 'X factor calculation' worksheet of the '**WAPC Model.xls**' workbook. To enact the NPV approach with a P-nought adjustment, select '2' in cell C11. The relevant information relating to the X factor calculation is contained in rows 51 to 67.

The X factors are calculated by clicking on the 'Calculate X factor' button in row 61. This launches a macro that:

- calculates the percentage change in prices in the first year (2004/05) required to equate the forecast revenue with the building block revenue requirement in the first year of the regulatory period (the $X_0$ factor — the P-nought adjustment), and
- calculates the percentage change in prices in the remaining regulatory control period required to equate the Net Present Value of forecast revenue with the Net Present Value of the building block revenue requirement over the full regulatory control period (the $X_1$ factor).

The calculated $X_0$ and $X_1$ factors are reported in cells C64 and C66 and replicated in cells C15 and C16.

The model also allows the user to specify an $X_1$ factor outside of the model (entered in cell C66). By clicking on the 'ESC calculation of $X_0$' button, the model then calculates the $X_0$ factor that equates the Net Present Value of forecast revenue with the Net Present Value of the building block revenue requirement over the full regulatory control period. This is the ESC approach.

*Interpretation of example*
Based upon the hypothetical numbers presented in the '**WAPC Model.xls**' spreadsheet, the model calculates an $X_0$ of 2.3 per cent and $X_1$ of 3.2 per cent. This means that in the example an initial reduction in prices of 2.3 per cent would be required in 2004/05, followed by an annual reduction in average prices of 3.2 per cent over the remainder of the regulatory period to ensure that expected revenue is equal to building block costs (in net present value terms) over the life of the regulatory period. The $X_1$ factor is lower than the single X factor calculated above due to the effect of the P-nought adjustment lowering revenues.

### 4.2.3 Straight line revenue smoothing

The Tribunal has adopted this approach in its 1999 Determination. The straight line approach determines that an X factor based upon an average growth rate that would be expected to generate revenue for the DNSP in the last year of the 2004 regulatory control period is equal to the maximum allowable revenue in that year. The initial base from which the revenue flow is smoothed would probably be 2002/03 — the latest year before the 2004 regulatory period for which audited revenue data would be available.[11]

The real rate of growth in *revenue* that is implicit in the smoothed revenue profile is used to calculate the X factor. The X factor represents the real change in price and is calculated as the difference between the growth rate in smoothed revenue and average demand (quantity) growth. Average demand growth is calculated as a weighted average growth in demand over the regulatory period with revenue shares as weights.

Under the revenue smoothing approach, the revenue collected by the DNSP may be higher or lower in net present value terms than the maximum allowable revenue.

[11] For illustrative purposes, to allow comparisons of approaches, the model assumes a base year of 2003/04.

**Modelling Note**

To enact the straight line smoothing approach, select '3' in cell C11. The relevant information relating to the X factor calculation is contained in rows 69 to 80 of the 'X factor calculation' worksheet.

The spreadsheet determines a constant annual nominal percentage increase in revenues such that the DNSP's revenues in the final year of the regulatory control period, given its revenue in the year preceding the regulatory control period, would be equal to the maximum allowable revenue in the final year of the regulatory control period. This value is reported in cell C71. As discussed above, in practice, the Tribunal might base the growth factor on the latest year of audited data (2002/03). The nominal revenue flows generated by this growth rate in cell C71 are reported in row 73 and converted to real values in row 75 by deflating using the assumed CPI value for each year. The average real *revenue* growth rate is reported in cell C78. Average demand growth – calculated as the revenue weighted average growth in demand — is reported in cell C79. Cell 79 links to the 'Revenue Projections 2004-09' worksheet where the calculation of the average demand growth takes place (between rows 228 and 233). The calculated X factor is calculated as the difference between the average revenue growth rate and the average demand growth. This X factor is reported in cell C80 and replicated in cell C15.

*Interpretation of example*
The calculated X factor is 3.2 per cent. This approach would mean a larger real reduction in prices than the NPV approach (with no P-nought adjustment). This larger reduction in prices is reflected in the level of under-recovery shown in cell H80.

## 4.3 Allowance for other factors

In its Notice on the Form of Regulation, the Tribunal indicated that the constraint on average price increases (that is, the left-hand side of equation 4.1) might be calculated taking account of other factors in addition to inflation and the X factor. While the Tribunal has yet to determine what these factors might be, these may include:

- a service quality mechanism
- a correction factor, which would provide for factors arising in the current regulatory period to be carried forward into the regulatory period commencing 1 July 2004
- a benefit sharing mechanism to account for differences between forecast and actual throughput
- a mechanism allowing for the net impact of inter-distributor transfers to be passed through
- a mechanism to provide incentives to undertake demand management, and
- a mechanism for passing through other specified costs.

At this stage, the Financial Model does not allow for these potential other inclusions. However, these factors may be incorporated into the model.

# 5 INFORMATION REQUIREMENTS FOR THE WEIGHTED AVERAGE PRICE CAP

The calculation of the X factor for the weighted average price cap requires detailed information on every tariff offered by the DNSP. Specifically, the Tribunal will need to collect:

- the full list of tariffs offered by the DNSP in 2003/04 — the year prior to the commencement of the 2004 regulatory period — broken down into distribution (DUOS) and transmission (TUOS) components, and
- for each tariff component, the corresponding historical and future volumes for that tariff component between 2000/01 and 2008/09.

This section documents the specific information required by the Tribunal.

## 5.1 Data on tariffs

Tariffs for 2003/04 for each DNSP will be known after May 2003, when the Tribunal has considered price change proposals submitted by the DNSPs. The current information request relates only to 2001/02 and 2002/03 tariff data.

The weighted average price cap will apply only to distribution tariffs — that is, the Distribution Use of System (DUOS) component of network prices. Transmission charges (TUOS) will be a pass–through element of network charges. This means that the Tribunal will need to know what proportion of each tariff is attributed to DUOS charges and what proportion in attributed to TUOS charges.

The calculation of the weighted average price cap will be based upon the 2003/04 DUOS component of tariffs. While the Tribunal will be able to identify the overall network tariff for 2003/04, the audited information on the DUOS and TUOS components of these tariffs will not be available until after the Tribunal has made its Determination for the 2004 regulatory period. To overcome this, the Tribunal will estimate the DUOS and TUOS components of the 2003/04 tariffs based upon the DNSP's estimated split between DUOS and TUOS for 2001/02 — the most recent year for which audited data is available.

The Tribunal is therefore asking the DNSPs to estimate the likely DUOS and TUOS components of their 2001/02 network tariffs in the information request. DNSPs are also asked to provide an estimate of this split for 2002/03. Once the final outcomes relating to TUOS for 2002/03 are known, DNSPs will be requested to provide their final estimates of the breakdown of DUOS and TUOS for each tariff in 2002/03 regulatory accounts. The Tribunal may determine the TUOS and DUOS components in its determination based upon the information provided by the DNSPs.

The methodology for allocating network tariffs between DUOS and TUOS should be consistent with a methodology agreed between the Tribunal and the DNSPs. This methodology has yet to be settled. The Issues Paper discusses a possible approach to allocating the TUOS component to tariff classes.

**Filling out the information request – tariff data**

The '**Volume and Tariff Projections.xls**' workbook has three worksheets relating to tariff information for 2001/02 and three relating to 2002/03. The first of these, 'Network Tariffs 2001-02', asks for information on the DNSP's network tariffs for 2001/02. This worksheet is in the same format as that used by the Tribunal to verify that DNSP's proposed tariffs for 2001/02 and 2002/03 complied with the Tribunal's current network determination. DNSPs are requested to list all their 2001/02 tariffs, including tariffs for individual non-residential customers, in columns C and D and identify the tariff rate in the appropriate place in columns F through AD. Where a DNSP has Step tariffs, the Step thresholds should be entered in cells M11 to P11. Additional rows can be inserted if the DNSP has more tariffs than currently allowed for. If additional rows are inserted, then the same number of rows should be inserted in the same position on the 'TUOS 2001-02', 'DUOS 2001-02' and 'Estimated 2002-03 data' worksheets.

DNSPs are requested to identify the TUOS components of each of the network tariffs on the 'TUOS 2001-02' worksheet. The final worksheet, 'DUOS 2001-02', calculates the DUOS component of network tariffs as the difference between the network tariff and the TUOS component of the tariff. DNSPs are invited to use this sheet to cross-check the data entered on the previous two sheets. The process for 2002/03 tariffs is the same for 2001/02 with data to be entered on the 'Network Tariffs 2002-03', 'TUOS 2002-03' and 'DUOS 2002-03' worksheets.

## 5.2 Volume forecasts

In its Notice on the form of regulation, the Tribunal noted that it will consider at least the following methods of dealing with forecasting:

1. establishing the forecasts after considering the forecasts put forward by the DNSPs, engaging an independent consultant to review those forecasts considering public comment on those forecasts and the review, and
2. establishing a mechanistic approach to forecasts, where forecasts would be based on an average historical growth rate.

For the Tribunal to implement either of these approaches, it will need to collect information on:

- historical information on customer numbers and volume supplied under each tariff class
- each DNSP's projected change in customer numbers and volume supplied under each tariff class.

As part of the information base for the 2004 Determination, the Tribunal will be collecting historical throughput or volume information for financial years 2000/01, 2001/02, 2002/03 and projected throughput or volume data for the years 2003/04 through to 2008/09. The total costs review consultants will test the reasonableness of the projections put forward by DNSPs.

### 5.2.1 Historical volume data

DNSPs have already submitted historical volume information for 2000/01 to the Tribunal as part of the Information Request template used to support compliance with the current network pricing determination. This data is reproduced, in the same format, in the Information Request workbook. While this data is unaudited, this information will assist the Tribunal in determining the reasonableness of projected growth rates in light of historical growth.

The Tribunal has collected audited customer and volume data as part of the 2001/02 Regulatory Accounts. For convenience this has been replicated in the Information Request spreadsheet. DNSPs are invited to check the historical data that has been reported in the Information Request for accuracy. Any changes made to the historical data should reconcile to the regulatory accounts and be accompanied by an explanation.

The Tribunal will collect unaudited actual volume data for 2002/03 from the (unaudited) 2002/03 Regulatory Accounts, which the Tribunal requires to be submitted at the end of August 2003. To assist its analysis before that time, the Tribunal is requesting that DNSPs provide estimated customer and volume numbers for 2002/03 as part of this Information Request.

**Filling out the information request – historical volume and customer numbers**

Historical demand information for 2000/01 and 2001/02 have been reproduced in the worksheets 'Historical 2000-01 demand' and 'Historical 2001-02 demand' in the '**Volume and Tariff Projections.xls**' workbook. The format for these sheets is the same as the tariff data sheets described above. DNSPs do not need to enter information on these sheets but are invited to check this data for accuracy.

Estimated demand (customers and volume supplied) for 2002/03 should be entered on the 'Estimated 2002-03 demand' worksheet, which has the same format as the earlier historical data spreadsheets. The tariffs labels are imported from the 'Network Tariffs 2002-03'. Data should be entered in the cells with the yellow shading. Where a DNSP has Step tariffs, the Step thresholds should be entered in cells N11 to Q11.

### 5.2.2 Projections of future demand

The Tribunal is requesting DNSPs to provide projections of future customer numbers and volume supplied under low, medium and high growth scenarios for the period 2004/05 through to 2008/09, *assuming the current standard of service is maintained*. The Tribunal has left open the methodology for projecting this information forward, but requests the DNSPs to identify the assumptions underlying their projections in the relevant area in the Information Request spreadsheet. The projections provided should be consistent with those used to support the financial projections and the total cost review.

The Information Request provides for projections to be made to 2008/09. This should not be taken as an indication of the likely duration of the 2004 regulatory period.

The medium growth scenario should be the DNSP's view of the most likely scenario to emerge over the 2004 regulatory period. DNSPs will have an opportunity to indicate whether the medium growth scenario remains the most likely scenario in light of actual outcomes for 2002/03, or whether the high or low growth scenario is more appropriate.

The **Volume and Tariff Projections.xls**' workbook also has provision for DNSPs to include revised projections of customer numbers and volume supplied, assuming an alternative standard of service applies. This alternative standard of service should be the same used to derive the alternative financial projections under the three growth scenarios (see chapter 3 for discussion). DNSPs may complete the three worksheets (relating to the different growth scenarios) if they believe that alternative service quality would affect the volumes for various tariff classes.

**Filling out the information request – projected volume and customer numbers**

The '**Volume and Tariff Projections.xls**' workbook contains three worksheets for low, medium and high growth projections. Each worksheet is identical in structure and broadly based on the structure of the historical demand worksheets described above.

Each row corresponds to an individual network tariff offered by the DNSP. The tariff code (if applicable) and tariff name is entered in columns C and D. These are imported from the 'Estimated demand 2002-03' worksheet. Tariffs should be grouped as domestic and non-domestic. DNSPs with more tariffs than currently allowed for can insert additional rows in the relevant section.

The first set of columns (E through K) relate to projections of the number of customers being supplied on each tariff. For convenience, estimated customer numbers for 2002/03 are imported from the relevant worksheet. DNSPs should fill the projections of customer numbers for each tariff line for 2003/04 to 2008/09 in columns F through K. The light yellow shading indicates where data should be entered.

The remaining columns (M through FG) relate to projections of volume supplied under each tariff rate. For example, columns M through S relate to tariffs with a single consumption charge, including controlled load tariffs (that is, not time of use tariffs). The volume that DNSPs expect to be supplied under these type of tariffs should be entered in columns M through S. Note that the cells in rows 49 to 69 are not shaded as these correspond to time of use tariffs and step tariffs. Under these tariffs, a different price is charged depending on the time of use or on the usage step and each component of demand needs to be projected. For time of use tariffs, DNSPs will need to project the volume supplied under peak, shoulder and off-peak periods (columns U to AA, AC to AI, and AK to AQ respectively). Similarly, volume supplied under each individual step of step tariffs also needs to be projected (columns AS to BW).

Projections for the various non-domestic demand and capacity tariffs should be entered in columns BY through FG. Separate projections on the basis of non-TOU, peak, shoulder or off-peak are required.

The three sheets following the sheet entitled 'Alternate service quality' may be completed by DNSPs if they believe that the alternate service quality for the financial information might also affect demand for each tariff class. These sheets are simply replicates of the earlier demand projection sheets.

# 6 INFORMATION REQUIREMENT CHECKLIST

The following checklist summarises the information required from DNSPs in this information request.

| | Information | Workbook to be completed |
|---|---|---|
| ☐ | Projected financial information to 2008/09 for low, medium and high growth scenarios, assuming **current** standard of service | Financial projections.xls |
| ☐ | Description of service quality related projects supporting alternate service standard scenario | Financial projections.xls |
| ☐ | Projected financial information to 2008/09 for low, medium and high growth scenarios, assuming **alternate** standard of service (optional) | Financial projections.xls |
| ☐ | Description of current and alternate standards of service | Financial projections.xls |
| ☐ | Projection of unders and overs account information to end of current regulatory period | Financial projections.xls |
| ☐ | Network and TUOS tariffs for 2002/03 | Volume and Tariff Projections.xls |
| ☐ | Estimated customer and volume demands for 2002/03 | Volume and Tariff Projections.xls |
| ☐ | Customer and volume projections to 2008/09 under low, medium and high growth scenarios, assuming **current** standard of service | Volume and Tariff Projections.xls |
| ☐ | Description of assumptions underlying low, medium and high growth scenarios | Volume and Tariff Projections.xls |
| ☐ | Customer and volume projections to 2008/09 under low, medium and high growth scenarios, assuming **alternate** standard of service | Volume and Tariff Projections.xls |

# APPENDIX 1 DEFINTIONS OF OPERATING AND CAPITAL EXPENDITURE CATEGORIES

## A1.1 Definitions of operating cost categories

The definitions provided below are based on the definitions in *National regulatory reporting for electricity distribution and retailing businesses* (Utility Regulators Forum Discussion Paper, March 2002). The discussion paper definitions are also used in the current IPART Regulatory Accounts template. 'Demand management' and 'additional costs of non-standard services' are new categories introduced for the purposes of the 2004 review.

Note

1. Overhead costs should be included in the categories as appropriate.
2. All costs that have been capitalised must be excluded.

### A. Line costs

Transmission charges and inter-distributor transfer payments (IDT).

### B. Network operating costs

The operational costs associated with the operation of the network including, but not restricted to:

- the staffing of the control centre(s)
- operational switching personnel
- outage planning personnel
- provision of authorised network personnel
- demand forecasting
- procurement
- logistics and stores
- information technology (IT) costs directly attributable to network operation
- insurance costs and
- land tax costs.

### C. Network maintenance costs (excluding costs provided in E, F and G below)

Pole Replacement

The purpose of recording this as a separate item is to identify a major category of expenditure that is frequently capitalised.

Other network maintenance costs include:

- Inspection of Distributor's poles and / or lines including sub-transmission, distribution and customers' high voltage lines
- Line and pole maintenance
- Maintenance and repair of apparatus on customer premises excluding meters
- Maintenance and repair of Substations
- Maintenance and repair of Work Depots and Buildings
- Maintenance and repair of Tools and Equipment
- Vegetation management
- Emergency response
- Fire Mitigation (excluding vegetation management)
- Field Training
- Insurance
- Sundries.

## D. Other costs (excluding costs provided in E, F and G below)

Advertising, marketing and promotions

Advertising and marketing activities attributable to the provision of distribution services, including:

- Providing information to customers, and conducting promotional activities, in order to improve the utilisation of the network assets by improving the power factor or the load factor.
- Providing contact telephone numbers for fault reporting, for example through bill inserts.
- Publicising reliability targets and communicating with network customers on reliability matters.
- Development of network tariffs.
- Communicating with customers on distribution matters, for instance, providing notice of planned interruptions.
- Educating the public on network-related electrical safety.
- Activities arising from the Distribution Business' obligations in relation to the quality of supply.

Excluded from this cost category are:

- Brand advertising.
- Corporate image making.
- Corporate / community sponsorships and donations.
- Communication internal to the business.
- Research and analysis on other distribution businesses.
- Contact with any Ombudsman.
- Advertising of retail services.

Full Retail Contestability Costs

Operating costs attributable to the distribution business associated with transferring retail customer from franchise to contestable tariffs. Such costs include:

- The cost of establishing an interface with the centralised customer transfer system.
- The cost of adjusting internal processes and systems.
- FRC project management costs.
- Additional operating expenditure, such as those costs associated with transfers.

Demand Management costs

Costs (excluding capital costs) incurred by the distribution business in the course of:

- taking action independently or in partnership with generators, retailers, other energy service intermediaries or end users
- to alter the level or pattern of consumption of energy, source of energy, or use of the distribution network
- in response to the costs of the supply of energy or environmental preferences or policies.

Note that 'negative revenue' from foregone sales, for example due to interruptible contracts, is included in the weighted average price cap and is not recorded here.

Other operating costs

- Customer Service
- All other costs that are incurred in the provision of distribution services. For example, billing and revenue collection and regulatory costs will be included in this category.

### E. Metering costs

All operating expenditure incurred in the carrying out of meter reading activities, processing data from meters and meter maintenance and repair.

### F. Public lighting

Services to provide for the lighting of public places, and in particular:

- The operation of public lighting assets, including handling inquiries and complaints about public lighting, and dispatching crews to repair public lighting assets.
- The maintenance, repair, alteration, relocation and replacement of public lighting assets.

### G. Additional costs of non-standard services

Any costs incurred in providing a non-standard service over and above the costs of a standard service to affected customers.

This item needs to be separately identified if non-standard services are to become Excluded services.

## A1.2 Definitions for Capital Expenditure by Purpose

The definitions provided below are based on the definitions in *National regulatory reporting for electricity distribution and retailing businesses* (Utility Regulators Forum Discussion Paper, March 2002). The discussion paper definitions are also used in the current IPART Regulatory Accounts template. 'Demand management' is a new category introduced for the purposes of the 2004 review.

The classification of a project should depend on the primary reason for the project rather than the ex-post effects. However, a project may serve more than one purpose, for example asset replacement may be combined with reliability improvements. Where the secondary function involves additional expenditure, this additional expenditure should be reported under the secondary function.

### Asset renewal/replacement

This includes all capital expenditure whose primary purpose is to maintain the existing level of supply and standard of service.

### Growth (Demand related)

This includes all capital expenditure whose primary purpose is to meet an increase in demand, or a movement of load within the network.

### Reliability and quality improvements

This includes all capital expenditure, the primary purpose of which is to improve network reliability.

### Full Retail Contestability

All capital expenditure for full retail contestability.

### Demand Management

Capital expenditure incurred by the distribution business to alter the level or pattern of consumption of energy, source of energy, or use of the distribution network in response to the costs of the supply of energy or environmental preferences or policies. Such action may be taken independently or in partnership with generators, retailers, other energy service intermediaries or end users.

### Environmental, safety and legal obligations

All capital expenditure relating to environmental safety and legal obligations.

### Other

All other capital expenditure should be recorded in this category, with explanations of what is included.