

**NETWORKS PRICING:
2004 REGULATORY RESET**

**DRAFT DECISION PAPER:
PRICE REGULATION METHODOLOGY**

SEPTEMBER 2003



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Table of Contents

1. Introduction.....	1
Background	1
Purpose of this Paper.....	2
Call for submissions	2
2. Proposed Methodology: An Overview	3
Commission’s proposed approach	3
Next steps	6
Structure of remainder of paper	8
3. Rationale for the Commission’s Proposed Approach.....	9
Key features of proposed approach.....	9
The Commission’s objectives.....	10
Supporting rationale for the use of a tariff basket form of price control ...	11
<i>Incentives on the network provider’s behaviour.....</i>	<i>11</i>
<i>Relationship between revenues and costs</i>	<i>13</i>
<i>Risk allocation</i>	<i>13</i>
<i>Transparency and complexity</i>	<i>14</i>
Supporting rationale for the use of external benchmarks in setting X.....	14
Supporting rationale for resetting opening price levels	16
Why the Commission rejects continuation of the current approach.....	16
Power and Water’s support for continuation of the current approach	17
<i>Operational flexibility and risk management</i>	<i>18</i>
<i>Intrusiveness and prescription</i>	<i>19</i>
<i>Cost and simplicity</i>	<i>20</i>
4. Key Methodological Choices in Implementing the Proposed Approach	21
Identity of key choices	21
Measuring the weighted average of network tariffs.....	21
<i>How will the weights be determined?</i>	<i>23</i>
<i>How will new tariffs be incorporated?.....</i>	<i>23</i>
<i>How will non-standard services, and negotiated tariffs, be dealt with?.....</i>	<i>24</i>
Deciding on base year changes [determining the Z factors]	24
<i>What year?</i>	<i>24</i>
<i>What factors will influence the base year revisions?</i>	<i>25</i>
<i>What is the Commission’s proposed approach for determining the revenue recovery component of the Z factor?.....</i>	<i>25</i>
<i>What is the Commission’s proposed approach for determining the building blocks-based component of the Z factor?.....</i>	<i>25</i>
Choosing the CPI.....	30
Determining the “X factor”	30
Determining the Y factor	32
Determining the S factor (side constraints).....	32
5. Reset Process Issues	33
Views in submissions	33
Consultation process and timetable	33
<i>Commission’s approach.....</i>	<i>33</i>
<i>Views in submission.....</i>	<i>34</i>
<i>Commission’s view</i>	<i>35</i>
Anticipated amendments to the Code	35
<i>Commission’s approach.....</i>	<i>35</i>
<i>Views in submission.....</i>	<i>35</i>
<i>Commission’s view</i>	<i>36</i>
Appendix A - Notice to Contestable Customers	39
Appendix B - Price-Related Amendments to the Code	41

CHAPTER**1****INTRODUCTION****Background**

1.1 Prices paid by network users for the conveyance of electricity through prescribed electricity networks in the Northern Territory are regulated under the Electricity Networks (Third Party Access) Code (“the Code”)¹ which is a schedule to the *Electricity Networks (Third Party Access) Act 2000*.

1.2 Granting third-party access to an electricity network involves an unbundling of electricity supply into:

- *generation* services (relating to the production of electricity);
- *retail* services (relating to the sale of electricity to end-use customers); and
- *network* services (relating to the transportation of electricity from generators to end-use customers).

1.3 The network service provider occupies a strategic position in the electricity system, since a generator or retailer can only supply electricity to its customers if it can transport this electricity via the network. For effective competition in upstream and downstream markets with a transportation requirement, all parties – irrespective of their affiliation with the network provider – must have access to the network.

1.4 Part 3 of the Code specifies the price regulation framework to be observed by the Commission and by the network provider when setting the prices to be paid by network users for the conveyance of electricity through the electricity network. The Commission has been undertaking such regulation using a price regulation methodology that has been constant during the first regulatory control period that is due to end on 30 June 2004.²

1.5 In the lead-up to the commencement of the second regulatory control period (the five-year period commencing 1 July 2004), the Code requires the Commission as regulator – in consultation with interested parties – to review the price regulation methodology used in the first regulatory control period. The Commission is referring to this review as the “2004 Regulatory Reset”.

1.6 The 2004 Regulatory Reset has two stages:

- in stage 1, the methods used to regulate prices will be reviewed and, if necessary, changed; and
- in stage 2, new price controls for the second period will be implemented using the revised methods from stage 1.

¹ The Code can be viewed on the legislation page of the Commission’s website (www.utilicom.nt.gov.au).

² A regulatory control period is defined in clause 3 of the Code as the period between major price reviews (or ‘resets’) during which time the price regulation methodology used in setting prices is held constant.

1.7 Stage 1 of the reset was initiated by an Issues Paper published in July 2003.³ That paper sought to identify the main issues to be dealt with. Disappointingly, only three submissions were received. The Commission was grateful to receive limited submissions from Voice International Limited and the Essential Services Commission of South Australia (“ESCOSA”) as well as the detailed submission received from the Power and Water Corporation (“Power and Water”).⁴

Purpose of this Paper

1.8 This Paper presents the Commission’s draft decision on price regulation *methodology* issues. Price regulation methodology involves the practical and technical detail for the administration of price regulation over which the Commission as regulator has a degree of discretion.

1.9 As identified in the Issues Paper, the methodology issues that must be addressed by the Commission for implementation in the second regulatory control period are:

- the methodologies for determining:
 - the revenue or price caps in the first year of the regulatory control period,
 - the weighted average cost of capital (WACC), and
 - the efficiency gains (or X) factor necessary for determining revenue or price caps for the second and subsequent years of the regulatory control period;
- the methodology to be used for valuing network assets for regulatory purposes;
- the methodology to be used to assess which network access services are subject to effective competition and can be excluded from the revenue cap applying to regulated network access services; and
- the approaches to be used for assessing whether, in the Commission’s opinion:
 - the network provider’s pricing principles statement is consistent with the clause 74 network pricing objectives, and
 - the network provider’s proposed individual tariffs and charges comply with the principles laid down in chapter 7 of the Code or are consistent with requirements elsewhere in the Code.

1.10 Only when these methodology issues are settled (in stage 1) is it appropriate for the Commission to turn to the issues that arise from implementation of the preferred methodologies (stage 2 of the reset).

Call for submissions

1.11 Submissions are invited from interested parties concerning the issues raised in this Paper and related matters. The closing date for submissions is **Friday 24 October 2003**.

1.12 Submissions or inquiries should be directed to:

Executive Officer	Telephone:	(08) 8999 5480
Utilities Commission	Fax:	(08) 8999 6262
GPO Box 915		
DARWIN NT 0801	Email:	utilities.commission@nt.gov.au

³ In addition to the Issues Paper, the Commission also published a *Guide to the Issues* paper which was sent to all contestable customers, customer representative groups and licensed generators with the accompanying notice reproduced at Appendix A.

⁴ These submissions can be viewed on the Commission’s website.

CHAPTER

2

PROPOSED METHODOLOGY: AN OVERVIEW

2.1 This chapter sets out the Commission's draft decision regarding the price regulation methodology to apply during the second regulatory control period, and the Commission's overall plan for implementing this decision.

Commission's proposed approach

2.2 Fundamentally, in the second regulatory control period, the Commission proposes to:

- undertake a cost-based 'base period' reset, by re-applying the building blocks approach to 2002-03 data (being the most recent actual data that is available);
- to then adjust a measure of the weighted average of the approved individual network tariffs in 2003-04 ("year 0") in line with the assessed base period adjustment;
- to then allow the adjusted weighted average of tariffs to be escalated year by year (i.e., years 1 through 5) during the second regulatory control period using escalation factors that are de-linked to the maximum extent possible from costs; and
- to provide the network provider with the flexibility necessary to align its price structures with the structure of its costs.

2.3 Once the base period reset takes place, the proposed approach involves the adoption of a *price cap* form of regulation in the second regulatory control period (rather than the revenue cap as in the first regulatory control period). Moreover, the price cap is to be based on a *tariff basket approach* (i.e., on weighted average prices).

2.4 The weighted average of individual network tariffs already approved for the current year (or any previous years) (P_{t-1}) will be measured in index form as follows:

$$\begin{aligned}
 P_{t-1} &= \frac{\sum_{i=1..n} [p^{i_{t-1}} * q^{i_{t-2}}]}{\sum_{i=1..n} [p^{i_{2000-01}} * q^{i_{t-2}}]} \\
 &= P_{t-2} * \left[\frac{\sum_{i=1..n} [p^{i_{t-1}} * q^{i_{t-2}}]}{\sum_{i=1..n} [p^{i_{t-2}} * q^{i_{t-2}}]} \right] \quad \dots \text{(1)}
 \end{aligned}$$

where:

p = the approved price (or price component) for an individual network tariff item; and

q = the quantity weight associated with the price (or price component) for the individual network tariff item;

and:

the "i" superscript denotes an individual network tariff item, or a component of an individual network tariff item where a multi-part tariff is involved;

the “ Σ ” symbol denotes the summation of all relevant values across all individual network tariff items, or components of such items;

the “t” subscript denotes a particular financial year, with t denoting the forthcoming year, t-1 the current year and t-2 the previous year; and

the “2000-01” subscript denotes a value for the 2000-01 year, the first full year during which network tariffs were subject to regulation under the Code.

2.5 Equation (1) implies that the Commission intends to develop a series of weighted average network price indices that go back to 2000-01.

2.6 The Commission’s proposal involves the tariff basket including the currently excluded streetlight service in addition to the network access services covered by the approved price schedule, with the DKTL charge treated as a separate tariff. All new services will need to be included, thereby impacting on the tariff basket/weighted averages.

2.7 The Commission proposes that the base year (year 0) adjustment be made to correct/revise the starting point (i.e., 2003-04) tariffs, thereby deriving an updated/revise weighted average of network tariffs for 2003-04 (P_0), as follows:

$$P_0'' = P_0 * (1 + Z) \quad \dots \text{(2)}$$

where:

P_0 = weighted average of approved network tariffs in 2003-04 (based on the first regulatory control period revenue cap); and

Z = a factor determined by the Commission prior to commencement of the second regulatory control period which indicates the extent to which the weighted average of network tariffs applying in the first regulatory control period requires adjustment in order to be the basis for network tariffs in the second regulatory control period.

2.8 The Z factor may differ between the regions. The Commission proposes to estimate the Z factors by undertaking a building blocks (i.e., cost-based) exercise with respect to the 2002-03 year. The Commission will use actual data for 2002-03 to determine the Z factor, since no building blocks approach was performed for 2003-04 – the extended year of the first regulatory control period – at the commencement of the first regulatory control period. In addition, actual values for 2003-04 will not be available in time for the calculation in November 2003.

2.9 In undertaking the updated building blocks analysis for the 2002-03 year, the Commission proposes to:

- to roll forward the capital base based on the 2001 revaluation (rather than the January 1999 valuation underlying the first regulatory control period’s revenue caps), provided the Commission is satisfied that (a) assets “discovered” since June 2000 do not deserve to be optimised, (b) assets acquired since June 2000 are included at cost and (c) the replacement cost of assets existing at June 2000 has been escalated at no more than CPI;
- base the WACC on an updated *pre-tax real* calculation, applying the June 2000 methodology;
- base depreciation expense on the June 2000 methodology; and
- set total operating and maintenance (O&M) expenses at a determined percentage⁵ of the level considered achievable over time by a recent

⁵ As an indication, this could be 2% per annum below 1999-00 actual costs escalated in real terms through to 2002-03. However, this matter will be addressed as part of the Draft Determination. This indication is not integral to the methodological issues that are the subject of the draft decision in this Paper.

benchmarking study undertaken by Meyrick & Associates (“Meyrick”),⁶ on an O&M base acceptable to the Commission (and one that is consistent with the June 2000 estimates).

2.10 Once the updated base year weighted average price (P_0) has been determined by applying equation (2), the Commission proposes that the network provider annually develops tariff schedules during the second regulatory control period that conform with the following constraint on weighted average prices (P_t , where 2004-05 is P_1 , 2005-06 is P_2 , etc.):

$$P_t \leq \left[P_{t-1} * \left(1 + \left(\frac{CPI_{t-1}}{CPI_{t-2}} \right) \right) * (1 - (X + Y)) \right] \quad \dots (3)$$

where:

P_{t-1} = the weighted average of approved individual network tariffs in the current year (i.e. the year preceding the year for which tariffs are being submitted for approval), where:

when $t = 1$, $P_{t-1} = P_0$ (calculated using equation (2)), and

when $t = 2 \dots 5$, P_{t-1} is calculated using equation (1);

CPI = a 100 based index, being the all capital cities headline CPI index published by the Australian Bureau of Statistics (“ABS”);

X = a factor determined by the Commission prior to commencement of the second regulatory control period which indicates the difference between annual movements in consumer prices on average and in electricity network access prices on average in Australia, to be based on X factors typically applying to best practice (i.e., efficient) network providers in other jurisdictions;⁷

Y = a factor determined by the Commission prior to commencement of the second regulatory control period which indicates the difference between annual movements in electricity network access prices applied on average by best practice (i.e., efficient) network providers in other jurisdictions in Australia and by the network provider in the NT, on the basis that any remaining O&M inefficiencies within the control of management are eliminated by the end of the second regulatory control period;⁸ and

and:

the “t” subscript denotes a particular financial year, with t denoting the forthcoming year, t-1 the current year and t-2 the previous year.

2.11 In equation (3), the Commission proposes to measure the CPI_{t-1} term by reference to the most recently published quarterly index published by the ABS. The CPI_{t-2} term in equation (3) involves the published index value in respect of the equivalent quarter in the previous year.

2.12 The Commission proposes to determine X and Y factors that do not differ between the regions.

2.13 Following determination of the X, Y and Z factors, the Commission would then consider approving the network provider’s pricing principles statement (to include

⁶ Meyrick and Associates Pty Ltd, *Benchmarking Power and Water Corporation’s Power Networks O&M Costs*, January 2003. The Executive Summary of this report can be viewed on the Commission’s website.

⁷ As an indication, X could be 1 or 2 rather than 4 or 5. However, this matter will be addressed as part of the Draft Determination. This indication is not integral to the methodological issues that are the subject of the draft decision in this Paper.

⁸ The Y factors will depend upon related assumptions regarding the relative efficiency of O&M costs that are applied in calculating the Z factor. As an indication, Y could be around ½ to 1. However, this matter will be addressed as part of the Draft Determination. This indication is not integral to the methodological issues that are the subject of the draft decision in this Paper.

principles governing change in tariff structures) and its capital contributions statement.⁹

2.14 Each year within the second regulatory control period, the Commission proposes to approve the annual tariff schedule submitted by the network provider provided the weighted average of tariffs inherent in the schedule complies with the constraint in equation (3).

2.15 Separately, the Commission intends to consider whether (and how) service quality performance should be taken into account. This will be the subject of an Issues Paper to be published by the Commission shortly. Initially, this is only likely to result in arrangements that ensure quality standards do not deteriorate in response to price regulation. Any performance incentive scheme that may subsequently be developed would not apply until the third regulatory control period.

2.16 Provided the constraint in equation (3) is met, the Commission proposes that the network provider be free to modify the *structure* of network tariffs, provided:

- in conjunction with the submission of the schedule of annual network tariffs for approval, the network provider also submits to the Commission a statement of reasons for any modifications proposed to the structure of network tariffs that is consistent with the approved pricing principles statement and capable of publication (with the Commission only intervening where it considers the proposed change in structure is not consistent with the approved pricing principles statement); and
- the resultant individual tariffs do not breach a CPI+S side constraint, where S is a factor determined by the Commission prior to commencement of the second regulatory control period.¹⁰

2.17 The Commission proposes that the within-period triggers and pass-through arrangements remain unchanged on those currently provided for by clause 71 of the Code.

2.18 Finally, the Commission proposes that the 2009 reset would focus on estimating the X and Y factors to apply in the third regulatory control period. An assessment of a Z-type factor would only also be undertaken if the network provider or the Commission could demonstrate at that time that, with the benefit of hindsight, the X factor set in the 2004 reset was incorrectly calculated (with the Z factor for the 2009 reset as a result being the ratio of the year 5 tariffs had the corrected X factor applied throughout the second regulatory control period to the tariffs actually approved for year 5).

Next steps

2.19 The proposed approach outlined above (and certain implementation methodologies detailed in chapter 4) address *methodological* issues (i.e., formulations and estimation procedures) and not actual quantification (i.e., values and estimates). Values and estimates will be the subject of a draft decision in the Draft Determination paper to be published *after* the Final Methodology Report.

2.20 The Final Methodology Report will contain the Commission's decisions on these methodological issues in light of its consideration of submissions received in response to the draft decision contained in this Draft Methodology Report.

⁹ It should be noted that the weighted average prices referred to above involve reference (not posted) prices. The network provider will be able to negotiate tariffs consistent with the reference tariffs provided the resultant negotiated tariffs comply with the Commission's discounting guidelines.

¹⁰ As an indication, S could be 5 or 10 rather than 1 or 2. However, this matter will be addressed as part of the Draft Determination. This indication is not integral to the methodological issues that are the subject of the draft decision in this Paper.

2.21 Once the final decision has been made on these methodological issues, focus will turn to applying the revised methodology and so the associated quantification of values and estimates. The Commission's draft determination in this regard will present draft values and estimates relating to:

- the weighted average of approved network tariffs in 2003-04 (P_0) for each of the regions;
- the Z factor for each of the regions;
- the relevant CPI;
- the X factor to apply across the regions;
- the Y factor to apply across the regions; and
- the S factor to apply in any side constraint.

2.22 To facilitate this draft determination, the Commission expects to publish its information requirements for the purpose of quantifying the parameters and estimates necessary for making the draft determination in conjunction with its Final Methodology Report. The information requested of the network provider is expected to include the following:

- with respect to the 2002-03 year, the quantity values (q^i) associated with each of the individual network tariffs and their components (p^i), including the number of kilowatt hours transported for streetlighting; and
- with respect to the 2002-03 year, the assets, depreciation and operating cost information necessary for the building blocks calculation involved in estimating the Z factor.

2.23 The Commission's draft determination will set out the following:

- relevant details of the building blocks calculation in respect of the 2002-03 year undertaken in June 2000, plus a building blocks calculation for DKTL undertaken in May 2001;
- the re-calculation of WACC applicable in respect of the 2002-03 year;
- an updated building blocks calculation in respect of the 2002-03 year, with DKTL included in the main calculation;
- the calculation of the resultant Z factor;
- the calculation of an adjusted 2003-04 base tariff schedule, by applying the relevant Z factor to each individual tariff component in the schedule approved by the Commission for 2003-04;
- the insertion of a base streetlighting tariff;
- the value of X to apply during the second regulatory control period, with the Commission's rationale and any calculations;
- the value of Y to apply during the second regulatory control period, with the Commission's rationale and any calculations; and
- the value of S to apply during the second regulatory control period, with the Commission's rationale and any calculations.

2.24 Following publication of the Commission's Final Methodology Report and before the network provider submits to the Commission for approval the proposed tariff schedules for 2004-05, the network provider must submit, and the Commission approve, both:

- a Pricing Principles Statement (clause 75(5) of the Code); and
- a Capital Contributions Principles Statement (clause 81(2) of the Code).

2.25 The Commission expects that Power and Water will be progressing these Statements in parallel with its submission on the draft determination, since the numerical outcome of the determination should not affect the principles that apply in relation to network price structures and capital contributions.

2.26 While there is no requirement on the Commission to undertake specific consultation on these draft Statements, clause 62(2) of the Code contains a general consultation requirement in relation to all price and pricing methodology determinations and approvals. On this basis, the Commission proposes to make Power and Water's draft Statements available for any comment during the period of its own deliberations.

2.27 As a consequence, the Commission's expanded timetable following publication of the Final Methodology Report is as follows:

Target	Event
mid November 2003	Publication of the Commission's Final Methodology Report on the price regulation methodology to apply in the second regulatory control period, including the data requirements for applying the revised methodology
end November 2003	Power and Water to provide data for draft determination, as requested in Final Methodology Report
early December 2003	Publication of the Commission's Draft Determination of the numerical value of the parameters required by the price regulation methodology applying in the second regulatory control period
end December 2003	Submissions on the Draft Determination due Submission of Power and Water's Draft Pricing Principles Statement and Draft Capital Contribution Principles Statement due Publication of Draft Statements for comment (without covering commentary by the Commission)
end January 2004	Publication of the Commission's Final Determination of the numerical value of the parameters required by the price regulation methodology applying in the second regulatory control period Submissions due on Draft Pricing Principles Statement and Draft Capital Contribution Principles Statement
mid February 2004	Publication of Commission's approval of Draft Pricing Principles Statement and Draft Capital Contribution Principles Statement
end February 2004	Power and Water to submit proposed tariff schedules for 2004-05 to the Commission for approval
end March 2004	Publication of the Commission's approval of the tariff schedules for 2004-05

Structure of remainder of paper

2.28 Chapter 3 states the rationale for the Commission's proposed approach, both in terms of its envisaged benefits and why the Commission considers the proposed price cap approach to be superior to Power and Water's preference for no change in the form of regulation.

2.29 Chapter 4 provides more detail regarding key methodologies integral to the implementation of the Commission's proposed approach. Chapter 4, in conjunction with chapter 2, is intended to provide sufficient detail to enable Power and Water, and other interested parties, to respond at the methodological level prior to the Commission making its final decision. The Commission considers six weeks to be sufficient for this purpose.

CHAPTER

3

**RATIONALE FOR THE COMMISSION'S
PROPOSED APPROACH****Key features of proposed approach**

3.1 In considering the form of regulation for the second regulatory control period, the Commission regards the primary choice to be between:

- continuing with the building blocks approach used in the first regulatory control period, in which allowed *revenues* in each year of a regulatory control period are built up from a detailed assessment of projected demand, costs and efficiency levels and then capped at a fixed amount determined at the start of the regulatory control period (the “revenue cap approach”); or
- moving to an approach in which *prices* are controlled through a CPI cap on the allowed increase in average prices less an efficiency (or productivity) factor determined by reference to industry-wide benchmarks (the “price cap approach”).

3.2 The Commission’s proposed approach favours *moving towards* a price cap approach. The purpose of this chapter is to detail the Commission’s reasons for this choice.

3.3 The proposed approach combines three elements – a tariff basket form of price control, a cost-based assessment of opening prices and an externally-determined annual price cap escalation factor. Although these elements may be considered separately for the purposes of discussion, in the Commission’s view they represent a single unified approach to the problem in which each element contributes to the benefits brought by the other elements. As such, the Commission does not consider that the elements are open to substitution individually.

3.4 The different elements also imply that the Commission’s proposed approach does not involve the *pure* application of a price cap approach. This is attributable in particular to the starting level of prices for the second regulatory control period being adjusted and reset to reflect an up-to-date view of efficient costs. However, beyond the application of the building blocks analysis to adjust the starting point prices, no further analysis of projected network demand, costs and revenues over the regulatory control period will be undertaken.

3.5 Once the starting level of prices has been established, the weighted average network access price will be allowed to increase each year by a maximum amount based on the level of consumer price inflation less an efficiency factor determined by the Commission at the start of the regulatory control period.

3.6 The focus of the new approach is on the weighted average of network access prices, alternatively referred to as a ‘tariff basket’. Each network access tariff component is represented within the basket, weighted according to the quantity sold. The Commission proposes to apply quantity weights based on the most recently

observed level of actual sales. No forecasts of sales volumes, and hence mechanisms to correct for forecast errors, will therefore be required.

3.7 Similarly, the latest actual consumer price inflation data will be used in the calculation of the tariff basket cap, eliminating the need for CPI forecasts.

3.8 Consequently, the only forward-looking data required for the year-by-year operation of the price cap will be the proposed tariffs themselves. Once compliance of the proposed prices with the price cap has been confirmed, no further regulatory involvement is required.

3.9 As elaborated in the remainder of this chapter, the principal attractions of this approach are as follows:

- it is light handed, with no reliance on forecast information and minimal within-period regulatory intervention or compliance activity;
- it greatly increases incentives on the network provider to structure individual prices in line with costs (thereby managing the associated risks);
- it will provide the network provider with the flexibility necessary to deal with the network implications of offshore gas developments without regulatory adjustments, at the same time as ensuring that existing users are not expected to subsidise new users; and
- it provides a basis for price movements over time that is readily understandable to end users.

The Commission's objectives

3.10 The Commission acknowledges that its proposed approach involves significant changes from the approach currently in place. As indicated in the Issues Paper, the Commission believes that experience has revealed a number of deficiencies with the current approach. These deficiencies, while substantial in their own right, take on added significance in the NT context.

3.11 It is important to ensure that the opportunity provided by the 2004 reset to improve the performance of network regulation and the outcomes it delivers is fully realised. In developing its proposed approach, the Commission has carefully considered the lessons learnt during the current period, together with the experience of other network regulators and the evidence available from the continuing reassessment of regulatory best practice.

3.12 Nevertheless, the Commission is wary of making change an objective in its own right. The Commission's focus is directed squarely at the key performance objectives of network economic regulation. The case for moving to the method of price regulation proposed by the Commission rests entirely on the benefits assessed against these key objectives.

3.13 Clause 63 of the Code requires the Commission to administer access price regulation under the Code in a way that achieves the following outcomes:¹¹

- (a) *efficient costs of supply;*

¹¹ Clause 63 of the Code is expected to be amended in line with recommendations made by the Commission in its review of the National Access Code by:

- explicitly including in the pricing principles that regulated access prices are to be set so as to generate expected revenue for a regulated service or services that is at least sufficient to meet the efficient long-run costs of providing that regulated service or services, and includes a return on investment commensurate with the regulatory and commercial risks involved (recommendation 47); and
- including an additional paragraph referring to such other outcomes as the regulator determines are consistent with the objects of the Code (recommendation 46).

- (b) prevention of monopoly rent extraction by the network provider;
- (c) promotion of competition in upstream and downstream markets and promotion of competition in the provision of network services where economically feasible;
- (d) an efficient and cost-effective regulatory environment;
- (e) regulatory accountability through transparency and public disclosure of regulatory processes and the basis of regulatory decisions;
- (f) reasonable certainty and consistency over time of the outcomes of regulatory processes; and
- (g) an acceptable balancing of the interests of the network provider, network users and the public interest.

3.14 These and other generic objectives within the Commission's statutory framework consistently emphasise the importance of promoting efficiency, competition, protecting the interests of customers and maintaining the financial viability of network access services.

3.15 In applying objectives of this broad nature in a manner that is relevant to the Northern Territory electricity market, the Commission has placed particular emphasis on the opportunities for making regulation *cost effective*, and the scope for giving increased weight to regulatory stability and predictability. This approach reflects the Commission's concern at the cost and complexity of regulation in a small market.¹²

3.16 For a small system, the cost effectiveness of regulation is a key consideration in assessing 'best practice'. In this context, cost effectiveness does not mean minimum cost, but a balancing of costs and benefits.

3.17 In considering the particular form of price control for the second regulatory control period, the Commission has applied more specific criteria. Options have been considered according to:

- the impact of the form of control on the network provider's incentives for efficient behaviour;
- the extent to which the controls ensure that total revenue tracks total cost;
- the implications of the form of control for risk allocation; and
- transparency and complexity.

Supporting rationale for the use of a tariff basket form of price control

3.18 The Commission believes that a tariff basket approach brings material benefits under each of the four performance criteria identified above.

Incentives on the network provider's behaviour

3.19 There are several key features of the proposed tariff basket control that can be expected to impact on network provider incentives.

¹² In this regard, the Commission acknowledges the four criteria advanced by ESCOSA in its submission which serve as a useful generic base when assessing forms of regulation:

- *the power of the incentive mechanism – which considers both whether a form of regulation can provide strong incentives and whether the industry being assessed requires, or can respond to, incentives;*
- *regulatory risk – which considers the likely consequences of over and under regulation;*
- *information and administration costs – which considers whether the necessary information is available and whether the industry, or market power concerns within it, warrant the various costs that regulation impose; and*
- *robustness to change – which considers whether the form of regulation selected will be able to keep up with industry and market dynamics, or indeed, whether it would stifle them.”*

Link between marginal revenue and tariff structure

3.20 Under the proposed tariff basket formula, the revenue earned by the network provider will depend upon the actual tariffs applying to the actual quantities sold of each of the charging parameters. If the network provider sells an additional unit, of whatever charging parameter (that is, whether peak kWh, off-peak kWh, kVA, customer number or some other parameter), the marginal revenue it earns will be equal to the tariff applying to that extra unit.

3.21 As a result, there is a direct link between the revenue earned and the tariff structure. This link between marginal revenue and tariff structure creates an incentive to set tariff structures to reflect the underlying cost structure, in order to minimise profit risk.

3.22 A tariff basket therefore supports the development of efficient prices – that is, prices that reflect the marginal costs incurred in providing services. Efficient prices are desirable because they promote economically efficient consumption and investment decisions and hence an efficient allocation of resources.¹³

Absence of forecasts and correction factors

3.23 The proposed tariff basket formula is based on information which is known at the time the formula is applied – the tariffs proposed for the coming year, current tariffs and the quantities sold last year. There is therefore no need to use forecast quantities, and to apply a later correction factor to account for the difference between the forecast and actual quantities.

3.24 While the absence of forecasts minimises the complexity of the formula and the workload associated with verifying compliance, it also limits the scope (and incentive) for strategic behaviour on the part of the network provider, in terms of under- or over- forecasting in order to increase total allowed revenue.

Introduction of new tariffs and charging parameters

3.25 One of the key features of the proposed tariff basket approach is that it uses information that is already available on past tariffs and previous quantities sold. As discussed above, this is one of the desirable features of the control, since it removes the need for forecasting and complicated correction factors and limits the potential for strategic behaviour.

3.26 However, where a new tariff (or a new charging parameter) is introduced, this past information is not available. Arrangements therefore need to be made for incorporating new tariffs into the tariff basket. As discussed in Chapter 4, the Commission is proposing that, where data on previous quantities sold is not available, the network provider is to make a ‘reasonable estimate’ of the quantities *that would have been sold* if the tariffs had been offered in the previous year.

3.27 The Commission is of the view that this approach will facilitate the introduction of new tariffs and new charging parameters, and hence support the development of more efficient and responsive tariffs.

¹³ In expecting price structures to be more efficient under a tariff basket approach, the Commission does not wish to over-emphasise the price signaling role played by prices. In this regard, the Commission takes note of the perspective offered by ESCOSA in its submission on the Issues Paper:

“Cost reflective price signals can provide efficiency benefits in so far as they create an incentive for consumers to modify their consumption patterns in response. However, ESCOSA observes that the extent to which this occurs is limited for many consumers, especially households, which tend to display very inelastic energy demand. The potential benefits from cost reflective price signaling should be seen in context.

Furthermore, it is uncertain whether cost reflective distribution tariffs would be passed through in the same manner to retail tariffs – thus undoing efforts at the distribution level.”

Efficient discounting

3.28 For economic efficiency reasons, the form of price control should not preclude the recovery of costs due to prudent discounting – in order to prevent uneconomic bypass, for example.

3.29 Under the proposed tariff basket control, the revenue earned by the network provider is determined by the *actual* tariffs charged and the quantities sold. In a situation where the network provider *discounts* its tariff to certain customers below the level which has been approved by the Commission, the revenue it earns will therefore be less than anticipated at the time it set its prices.¹⁴

3.30 In order to facilitate recovery of this revenue reduction under the proposed control, the network provider would need to introduce an *explicit tariff category* for the customer being offered the discount. This ‘discounted tariff’ would be incorporated into the tariff basket formula in the same way as any other new tariff. The network provider’s proposed tariffs to other customers on non-discounted tariffs would then be able to be increased, to the extent permitted by the tariff basket control. In this way the network provider would be able to recover part of the cost to it of offering the discounted tariff (subject to the negotiated prices meeting the Commission’s discounting guidelines).

3.31 The proposed treatment of discounted tariffs also has the advantage of making the extent of such discounts transparent.

Relationship between revenues and costs

3.32 Under a tariff basket form of control, there is a direct link between revenue earned and tariff structure. This in turn creates an incentive to align tariffs with underlying costs, in order to minimise the exposure to profit risk. Where tariffs reflect marginal costs, revenue will track total costs as demand varies.

3.33 For example, consider a network provider that levies a single rate tariff, which is comprised of a fixed component and a per kWh usage component. The network provider may choose to charge below cost for the fixed component, and above cost for the per kWh component. For some forecasts of expected quantities sold, the network provider’s anticipated loss from its fixed charges will be more than outweighed by the profit it makes on its usage charge.

3.34 Such a pricing strategy may well satisfy the tariff basket constraint. However, it will leave the network provider exposed to a higher degree of profit risk than if it had set its tariffs to reflect its costs. If its customer numbers increase by more than anticipated, for example, the loss it incurs on the additional fixed charges will reduce profitability as a whole, and vice versa.

Risk allocation

3.35 A tariff basket approach provides the network provider with both the means and the incentive to manage volume risk. This is an efficient allocation of volume risk.

3.36 To the extent that prices reflect costs, a decision that rests entirely with the network provider, the network provider will not be exposed to risks associated with changes in profitability as volumes change. However, if tariff structures do not reflect the underlying cost structure, then the network provider will face profit risk as quantities change, since revenues and costs vary in different proportions.

¹⁴ In a situation where the network provider discounts its tariff to avoid a customer bypassing the network, the revenue earned will be greater if the customer remains connected and pays the discounted tariff, than if it bypasses the network. Providing that the discounted tariff is above the avoided cost of supplying the customer, it will still be more profitable for the network to offer the discounted tariff than to lose the customer.

3.37 By placing the management of volume risk squarely with the network provider, the tariff basket approach promotes network provider management autonomy and accountability, and provides the flexibility, within the overall price cap, to respond to market developments.

Transparency and complexity

3.38 A key attribute of the tariff basket approach is its transparency and ease of administration.

3.39 In particular, the tariff basket approach operates on the basis of known rather than forecast variables, removing the need for complex correction factors. It lowers the administrative burden on the Commission and the cost of compliance on the network provider.

3.40 Under the tariff basket approach, outcomes are stable and predictable once the proposed tariffs are confirmed at the start of each year. Negotiations over adjustments to revenues collected in preceding years is avoided.

3.41 In the case of new tariffs, where previous information is not available, the network provider will be required to submit 'reasonable estimates' of the quantities that would have been sold had those tariffs been offered in previous years. The Commission will verify the reasonableness of these estimates and will reserve the right not to approve any tariff where the relevant quantity estimates provided do not appear to it to be reasonable. However, there will be no correction factor applied at a later date. Hence, even in the case of new tariffs, the tariff basket will operate with a minimum of complexity.

Supporting rationale for the use of external benchmarks in setting X

3.42 The value of the X factor is the amount by which network tariffs (on average) are allowed to escalate relative to the rate of consumer price inflation. X therefore determines the amount by which network tariffs change in real terms. Because productivity (or cost per unit of output) is a primary driver of real price movements, X is often referred to as a productivity or efficiency factor.

3.43 There are two main approaches to setting the value of X.

3.44 The first is on the basis of a full building blocks approach of projected required revenues for each year of the regulatory control period. This entails projecting network demand, capital expenditure and operating costs. Once required revenues have been projected, projected quantities of each tariff element are used to determine projected tariff revenues. The value of X is then determined so that the present value of tariff revenues equals the present value of required revenues. Because projected quantities are subject to forecast risk, and the rate of change in tariffs can influence quantities through the price elasticity of demand, scenario analysis is usually employed to estimate the likely range of X, before a final determination is made.

3.45 This is a complex and costly approach, but one which has been employed by network regulators in Victoria and New South Wales in their current and pending determinations. In each case, the analysis was undertaken over a period of 18 to 24 months.

3.46 The alternative approach avoids detailed analysis of projected demand and costs specific to the network being regulated. Instead, X is based on a benchmark estimate of the trend annual rate of productivity (or efficiency) performance for the industry. This then becomes the performance target that the regulated network provider must equal to maintain its profitability. Performance which betters this target increases profit during the regulatory control period and provides the key incentive properties of the CPI-X form of regulation.

3.47 This is the approach favoured *in principle* by the Commission.¹⁵ Generically it is a relatively common approach applied to networks (both electricity and telecommunications) and transport utilities in the United States. The method proposed effectively splits the conventional notion of X into two components – an industry-wide performance benchmark (which the Commission designates as X), and a network provider-specific ‘stretch factor’ (designated as Y). The use of company-specific stretch factors has been developed by regulators in the United States to address cases where either an initial efficiency gap exists or circumstances are expected to be particularly favourable to the regulated business. In either case, there are grounds for arguing that customers should share in the available potential additional profitability from improved performance. In Power and Water’s case, the Commission considers that an initial efficiency gap exists that would cause a benchmark efficiency factor to understate the gains available from an improvement in performance that could reasonably be expected to occur.

3.48 The two primary objectives for regulators when capping prices or revenues are the prevention of monopoly rents – that is, the ability of network providers to charge prices that are above efficient costs – and providing the regulated business with a reasonable prospect of cost recovery. The benefit of the cost-based building blocks approach is that it allows the regulator to demonstrate that, on the basis of the best available information, forecasting and modelling techniques, these two objectives are met. This does not remove the risk that is inherent to the task of projecting outcomes over a five year period and second-guessing the relationships involved, but it gives the regulator the opportunity to demonstrate that what could be done has been done. Essentially, the detail required by the building blocks approach provides the regulator with a basis for decision-making that is robust to challenge – in many cases, this means robust to legal challenge. For many regulators, robustness of this kind is an attribute worth paying for. In the Commission’s view, this is not a reasonable position to take in the NT context.

3.49 Aside from the considerations of cost and complexity, the chief criticism of the building blocks approach is that, on a purely objective basis, this robustness masks but does nothing to reduce the uncertainties inherent in the projections that form the basis for the building blocks approach. The building blocks approach has been further criticised for leading the regulator into a situation where it, *de facto*, micro-manages the regulated business by prescribing management responses to future developments. It relies heavily on regulatory judgments about the appropriateness of planned expenditure levels. For many critics, the intrusive nature of the building blocks approach is counter to the basic premise of incentive-based regulation.

3.50 Because the alternative benchmark approach is more light-handed and does not produce detailed projections of demand, costs and revenues, it cannot counter challenges that a particular future scenario may lead to stresses on the regulated business, or above normal profits. Given certain important provisions, however, it is widely accepted and demonstrable in theory that escalating average prices by general inflation less an empirically-based efficiency factor will provide a *reasonable expectation* of cost recovery for the business and avoidance of monopoly rents across a range of plausible scenarios over the regulatory control period.

3.51 Chief among the provisions is the requirement for opening prices that reflect efficient costs, which is the focus of the third element of the proposed approach.

¹⁵ In practice, the Commission proposes to adopt an X factor based on X values typically used in other jurisdictions rather than on a total factor productivity (TFP) analysis.

Supporting rationale for resetting opening price levels

3.52 The international experience has been that benchmark approaches have been adopted within mature regulatory regimes where the existing price levels and initial cost base are 'about right'. In these circumstances, regulators can have more confidence that in rolling forward the price cap they are not moving away from their primary objectives by compounding the extraction of monopoly rents or the under-recovery of efficient costs.

3.53 Where the required level of confidence is lacking, but the more light-handed benchmark approach is still favoured, the response of regulators has been to address the issue of opening prices directly by undertaking a 'base year' cost analysis and, if necessary, an opening price level adjustment.

3.54 By undertaking a base year cost analysis, the Commission will be able to explicitly incorporate updated asset values, WACC and operating costs. The Commission also intends to examine the evidence on the relative efficiency of Power and Water. If, as the Commission believes, there is an efficiency gap, the Commission will make a decision to allocate a portion of that gap to the base year price adjustment (Z) and the remainder to the on-going 'stretch factor' (Y) incorporated into the price cap.

Why the Commission rejects continuation of the current approach

3.55 The Commission considers the current revenue cap approach to be deficient in three key respects:

- the fixed revenue cap provides no incentives for efficient, cost-reflective pricing and output by the network provider;
- the fixed revenue cap is inflexible with regard to volume changes; and
- the combination of a building blocks approach and the fixed revenue cap is costly and complex to apply and administer.

3.56 Under a fixed revenue cap, the network provider's income is fixed, regardless of how much electricity it distributes. This has a number of consequences. While the network provider faces an incentive to reduce total costs since, with revenue fixed, lower total costs increases total profits, a primary means of achieving lower costs is to restrict output. There is the potential for a deterioration in the provision of network access services, to both new and existing customers, resulting from an incentive to reduce units distributed.

3.57 This works against the efficient utilisation of the existing asset base. It also diminishes the role of prices in the management of profit risk arising from volume changes. The network provider faces no clear incentive to align prices with costs, since cost reflectivity requires revenue flexibility.

3.58 In the face of a fixed revenue cap, variations in volumes from those forecast at the time that the cap was determined are accommodated by adjusting price. Greater than anticipated volumes lead to reduced prices and vice versa, potentially creating considerable price instability. Revenue inflexibility in the face of volume uncertainty adds to aggregate financial risk both for customers and the network provider.

3.59 Volume forecasts are also required for annual tariff setting. Where actual sales vary from the level assumed in setting tariffs, a subsequent revenue adjustment is required to bring actual revenues back to the level of the cap. The timing of the tariff setting process results in these revenue adjustments being considerably delayed. As a result, the customers whose prices are subsequently adjusted may not be the same as those initially involved. The Commission's experience with administering this system

during the first regulatory control period has not been positive, a view it shares with the NSW network regulator (IPART) which has also recently decided not to continue with a fixed revenue cap.

3.60 As discussed above, the Commission has major reservations concerning the benefits, in terms of the primary objectives of regulation, achievable from applying a detailed building blocks analysis of the network provider's projected required revenues over the second regulatory control period. While in the larger jurisdictions this approach is supported by extensive consultancy studies and detailed investigations, it is not a cost effective option in the NT context. As a consequence, the scope of a building blocks approach for Power and Water is necessarily limited and generalised, undermining the basic rationale for the use of this methodology.

3.61 The Commission recognises that a fixed revenue cap may be more conducive to the development of demand management options, and that there are positive environmental aspects to the absence of volume incentives. These are not unimportant considerations. Nevertheless, for the reasons stated, the Commission is of the view that the balance of interests clearly favours a move away from the current revenue caps approach.

Power and Water's support for continuation of the current approach

3.62 Power and Water's preferred outcomes can be identified from the following extract from its submission (see words where the emphasis has been added):

*"In terms of attaching relative importance to the criteria, Power and Water cautions the Commission against **excessive prescription and mechanical approaches** to determining the most appropriate form of regulation. It is recommended that the Commission also be mindful of the recent significant changes in the Australian regulatory environment:*

- The CoAG Energy Market Review Panel report , which found that there is excessive regulation, and supported the ongoing debate towards **regulation being less intrusive**. This is important in the NT because the small size of the market, and the high scale costs, means that the regulatory cost/benefit trade-off is more significant here than in any other system.*
- The Productivity Commission's final report on its inquiry into the national access regime. This recommended some important changes to the way in which access rules are applied, particularly noting the impacts on investment of **undue precision in the application of regulation**. The Productivity Commission's views are particularly relevant in the NT because the market is small, there are limited numbers of customers and therefore the costs of regulation need to be carefully weighed against the benefits; and, most importantly*
- The Western Australian Supreme Court, in the matter Dr Ken Michael AM; Ex parte Epic Energy (WA) Nominees & Anor [2002] WACSA 231 ("the DBNGP decision"), ruled in favour of Epic Energy in its dispute with the West Australian gas regulator over the Dampier to Bunbury Natural Gas Pipeline draft regulatory decision on Epic Energy's proposed access arrangement for the pipeline. This decision found that regulation should **replicate the outcomes of a workably competitive (rather than a perfectly competitive) market**. This principle is important given the small scale of the NT market, and the need for regulatory compliance costs to be carefully weighed against outcomes for consumers.*

Power and Water recommends that the Commission consider the principles of workable competition in interpreting the criteria and selecting the appropriate form of regulation rather than focussing solely on the elimination of monopoly rents. As Professor Littlechild noted :

*Unlike the precision of the neoclassical approach, where allowable rates of return are calculated by regulators to several decimal places, workable or effective competition is imprecise, even ambiguous. It will require judgement by regulators in their determinations about what is feasible and reasonable and whether consumer preferences are being satisfied. Nonetheless, it is a hard taskmaster. **Rather than focusing on prices and costs, the focus will be on non-price***

behaviour and beating ever harder targets in service delivery, as occurs in a workably competitive market. (emphasis added)

3.63 On cost effectiveness, Power and Water notes that it:

“...has submitted to the Commission on numerous occasions **the high costs associated with regulatory compliance under the building block model.** Power and Water agrees with the Commission’s concern on this issue. At this stage of market and regime development, however, the building block model appears to be the most appropriate form of regulation.” (emphasis added)

3.64 With regard to future volume risks, Power and Water comments that:

“The second regulatory period may see significant changes in the NT energy market, particularly if other Timor Sea gas comes on-shore to Darwin. The most significant change could be the **connection of large downstream oil and gas industries in the Darwin area, and the transportation of increased volumes of electricity through the network.**

Power and Water will work closely with the Commission to ensure that whatever regime is implemented, it does not impact unfavourably on the way in which electricity is provided to customers, and that benefits and costs are transparently reflected in prices and standards of service.

One way of ensuring that this takes place is to allow the Maximum Revenue cap to be **adjusted for certain market based triggers,** including:

- Significant new unforeseen capital expenditure related to off-shore gas;
- Significant new customer demand relating to off-shore gas; or
- Other significant changes in risk which impact on the ability for benefits to be passed through to consumers or future system security.” (emphasis added)

3.65 In summary, Power and Water:

“...favours the continuation of the cost based building block method for setting a Maximum Revenue cap, as opposed to a price cap, because it should:

- Provide Power and Water with the **operational flexibility it needs to meet its service objectives.** Power and Water will continue to work with the Commission to ensure that compliance mechanisms are appropriate and do not constrain the actual delivery of the service;
- Recognise the small scale of the NT market. Power and Water is the only network business and currently the only retail business. A method of setting revenue that is **simple, well understood and well implemented** will send the best signals to new entrant retailers; and
- Only expose Power and Water to **risks it can control.** It has not been confirmed that Timor Sea Gas other than Bayu Undan will come onshore. The building block model can be applied with sufficient flexibility to allow for any necessary changes in tariffs to be shown as consequent outcomes of new investment required in the system to support unexpected events such as on-shore gas.” (emphasis added)

3.66 The Commission recognises that Power and Water has raised relevant and valid points. The Commission shares Power and Water’s concerns for regulation to be cost effective, flexible in the face of future uncertainty and balanced between the interests of customers and the network provider. Interestingly, however, the Commission considers that many of the benefits that Power and Water attributes to the current revenue caps approach are in fact delivered more effectively by the benchmarked tariff basket approach proposed by the Commission.

3.67 In the remainder of this chapter, the Commission presents its responses to the key points raised in Power and Water’s submission.

Operational flexibility and risk management

3.68 Power and Water argued in favour of:

“...the continuation of the cost based building block method for setting a Maximum Revenue cap.....because it should:

- *Provide Power and Water with the operational flexibility it needs to meet its service objectives. ...;*
- *Only expose Power and Water to risks it can control.”*

3.69 The Commission agrees that the form of regulation should provide the network provider with operational flexibility and the opportunity to manage risks arising from its business environment. The Commission would add the corollary that the network provider then becomes accountable for its management decisions, as if it were operating in a competitive market. Risk management, in this context, is quite different from risk removal.

3.70 However, the Commission finds it difficult to understand why the imposition of a revenue cap, fixed for each year at the commencement of the period, provides more flexibility and greater risk management opportunities than a tariff basket which allows revenues to vary with sales volumes and prices to be set, within the overall constraint, at the discretion of the network provider.

3.71 Power and Water suggests that flexibility under a fixed revenue cap can be achieved by allowing the cap to be reset *within* the regulatory control period in the face of defined triggers in the business environment. In the Commission's view, this would be equivalent in its effect to a return to annual cost of service regulation. It has long been recognised that reopening a determination, other than for matters of *force majeure* and similar circumstances, is contrary to the underlying principles of incentive-based regulation.

3.72 It is natural for regulated businesses to seek the best outcome from the regulatory system. The Commission's task, however, is to balance the interests of the business with those of customers. For every adverse trigger that would allow the revenue or price constraint to be increased, customers would rightly expect to see favourable triggers that would cause revenues and prices to be reduced.

3.73 The Commission is not persuaded that the case cited by Power and Water – in which network expansion is required to accommodate new large customers – should necessarily lead to an increase in prices for all customers. The long run financial sustainability of the network provider is a function of the asset values, WACC and depreciation allowances, all of which will be reconsidered when base year prices are reset following a building block cost analysis of 2003-04 revenues. While network investments are typically lumpy, it would be unusual for this to be reflected in the pattern of annual revenue requirements and prices over the short term, rather than in the cyclical draw down of accumulated reserves and additions to debt. Beyond that, individual high cost customer connections are probably better addressed through a soundly-based capital contributions policy.

Intrusiveness and prescription

3.74 Power and Water also cautioned the Commission:

“...against excessive prescription and mechanical approaches the Commission [should] also be mindful of the... CoAG Energy Market Review Panel report, which found that there is excessive regulation, and supported the ongoing debate towards regulation being less intrusive.”

3.75 A key objective of the Commission in proposing a benchmarked tariff basket is to reduce the level of prescription and the intrusiveness of the current approach. However, the Commission recognises that to an extent there is a trade-off between what might be called a mechanical approach and intrusiveness. The benchmark approach to setting X may be said to be mechanical to a certain extent (although the approach proposed by the Commission will involve regulatory judgment – the Commission is not proposing to use a formula-based TFP estimate, for example). But this comes at the considerable benefit of a substantial reduction in the extent of regulatory intrusion into Power and Water's business operations. Other than for the base year price reset, there will be no requirement for an examination of Power and

Water's business plans, operating costs and capital programs, intrusions about which network providers in other jurisdictions have strenuously complained.

3.76 Similarly, in the Commission's view, the proposed approach marks a substantial lessening in the degree of regulatory prescription, compared with the current fixed revenue cap.

Cost and simplicity

3.77 Finally, Power and Water commented that:

"...[it] has submitted to the Commission on numerous occasions the high costs associated with regulatory compliance under the building block model.

.....the small size of the market, and the high scale costs, means that the regulatory cost/benefit trade-off is more significant here than in any other system.

A method ... that is simple, well understood and well implemented will send the best signals."

3.78 The Commission is pleased to find itself in complete agreement with Power and Water on this issue. In fact, the Commission's proposed approach endeavours to directly deliver on this requirement. It is a point lost in Power and Water's own preference for continuation of the current building blocks approach.

CHAPTER

4

KEY METHODOLOGICAL CHOICES IN IMPLEMENTING THE PROPOSED APPROACH

Identity of key choices

4.1 To assist the parties evaluate the Commission's proposed adoption of a price cap approach, this chapter provides more detail about key methodologies in the implementation of the proposed approach. The Commission does so because there is no single 'price cap' approach. There are many variants of this approach, with the Commission being most interested in submissions focussing on the particular variant the Commission has in mind.

4.2 To implement the proposed approach, the Commission needs to develop methodologies to measure:

- the weighted average of approved network tariffs in 2003-04 (P_0) for each of the regions;
- the Z factor for each of the regions;
- the relevant CPI;
- the X factor to apply across the regions;
- the Y factor to apply across the regions; and
- the S factor to apply in any side constraint.

4.3 This chapter addresses methodological issues (i.e., formulations and estimation procedures) and not actual quantification (i.e., values and estimates). Values and estimates will be the subject of a draft implementation decision in the Draft Determination paper to be published after the Final Methodology Report.

Measuring the weighted average of network tariffs

4.4 In chapter 2, the Commission indicated that its draft decision involved measuring the weighted average of individual network tariffs already approved for the current year (or any previous years) (P_{t-1}) in index form as follows:

$$\begin{aligned}
 P_{t-1} &= \frac{\sum_{i=1, \dots, n} [p^{i_{t-1}} * q^{i_{t-2}}]}{\sum_{i=1, \dots, n} [p^{i_{2000-01}} * q^{i_{t-2}}]} \\
 &= P_{t-2} * \left[\frac{\sum_{i=1, \dots, n} [p^{i_{t-1}} * q^{i_{t-2}}]}{\sum_{i=1, \dots, n} [p^{i_{t-2}} * q^{i_{t-2}}]} \right] \quad \dots (1)
 \end{aligned}$$

where:

p = the approved price (or price component) for an individual network tariff item; and

q = the quantity weight associated with the price (or price component) for the individual network tariff item;

and:

the “i” superscript denotes an individual network tariff item, or a component of an individual network tariff item where a multi-part tariff is involved;

the “ Σ ” symbol denotes the summation of all relevant values across all individual network tariff items, or components of such items;

the “t” subscript denotes a particular financial year, with t denoting the forthcoming year, t-1 the current year and t-2 the previous year; and

the “2000-01” subscript denotes a value for the 2000-01 year, the first full year during which network tariffs were subject to regulation under the Code.

4.5 The formulation in equation (1) reduces to precisely the same form as that which has been used since 2001 by the Essential Services Commission in Victoria. The formulation put forward by the Commission is favoured only for expositional purposes, where the formulation used for implementation and compliance purposes is likely to be the reduced form.

4.6 The tariff basket will contain all the fixed, variable, energy, demand and time of use components of network access tariffs. Taking the current 2003-04 tariff as an example, the basket will contain the price and quantity components shown in Table 4.1 below.

Table 4.1 Network Tariff Components 2003-04

Non-contestable customers	Price		Quantity	
System availability charge				
commercial	\$ /customer pa		number of customer years	
domestic	\$ /customer pa		number of customer years	
Monthly energy charge				
first 1000 kWh per month	\$ /kWh		kWh sold pa	
more than 1000kWh per month	\$ /kWh		kWh sold pa	
Contestable customers	Price		Quantity	
System availability charge	\$ /customer pa		number of customer years	
Monthly demand charge	Peak	Off-peak	Peak	Off-peak
first 50 kVA per month	\$ /kVA	\$ /kVA	kVA sold pa	kVA sold pa
next 50 kVA per month	\$ /kVA	\$ /kVA	kVA sold pa	kVA sold pa
next 100 kVA per month	\$ /kVA	\$ /kVA	kVA sold pa	kVA sold pa
next 300 kVA per month	\$ /kVA	\$ /kVA	kVA sold pa	kVA sold pa
next 500 kVA per month	\$ /kVA	\$ /kVA	kVA sold pa	kVA sold pa
next 1000 kVA per month	\$ /kVA	\$ /kVA	kVA sold pa	kVA sold pa
next 1000 kVA per month	\$ /kVA	\$ /kVA	kVA sold pa	kVA sold pa
any further kVA per month	\$ /kVA	\$ /kVA	kVA sold pa	kVA sold pa
Monthly energy charge	Peak	Off-peak	Peak	Off-peak
first 10,000 kWh per month	\$ /kWh	\$ /kWh	kWh sold pa	kWh sold pa
next 20,000 kWh per month	\$ /kWh	\$ /kWh	kWh sold pa	kWh sold pa
next 50,000 kWh per month	\$ /kWh	\$ /kWh	kWh sold pa	kWh sold pa
next 100,000 kWh per month	\$ /kWh	\$ /kWh	kWh sold pa	kWh sold pa
next 200,000 kWh per month	\$ /kWh	\$ /kWh	kWh sold pa	kWh sold pa
next 200,000 kWh per month	\$ /kWh	\$ /kWh	kWh sold pa	kWh sold pa
any further kWh per month	\$ /kWh	\$ /kWh	kWh sold pa	kWh sold pa

4.7 The tariff basket will not include capital contributions, or charges for services that are declared by the Commission to be excluded services.

4.8 Compared with the tariff schedules approved for 2003-04, streetlights as well as the DKTL will be included in the tariff basket.

How will the weights be determined?

4.9 For each tariff component, quantity weights in the tariff basket will be determined as the amounts sold to customers in the most recent year for which actual figures are available. Taking 2003-04 tariffs as an example, the quantity parameters for each tariff component are shown in Table 4.1 above.

4.10 The use of quantity data from the previous year ensures that quantity weights are based on verified data. The use of forecast data is completely avoided, ensuring that there is no requirement for forecast error correction mechanisms.

How will new tariffs be incorporated?

4.11 The development of new tariffs or tariff components that better reflect cost or service characteristics is supported by the Commission. Tariff development that achieves improved economic cost signaling and hence resource allocation is a primary objective of access pricing.

4.12 While a tariff basket form of control is in most respects relatively simple to implement and administer compared with other forms of price control, the introduction of new tariffs (and the removal of tariffs) requires rules and procedures for determining the quantity weights that should apply.

4.13 Because the tariff basket uses lagged quantity weights (for example, proposed tariffs for 2004-05 will use 2002-03 quantity weights), there will be a two year delay before data on actual sales for the new tariff (or tariff component) becomes available. If the rate of transfer of customers to the new tariff continues for an extended period, the network provider may face an associated revenue risk that could act as a disincentive to the introduction of more efficient tariffs.

4.14 The Commission will take an approach to the introduction of new tariffs or tariff components that endeavours to contain revenue risk within reasonable bounds.

4.15 In most cases, new tariffs or tariff components will have a readily identifiable parent tariff or tariff component. When introducing new tariffs or tariff components, the Commission will require the network provider to estimate the quantities that would have been sold had the tariff or tariff component been in place in the previous year. In effect, proxy quantities will be used. The Commission will assess the reasonableness of these estimates and the supporting evidence, before determining the weights that will apply.

4.16 In particular, the Commission proposes that:

- the network provider should nominate the 'parent tariff' category associated with the new tariff being introduced. This parent tariff category is the tariff category which currently applies to those customers who are expected to migrate to the new tariff category;
- the value for the 'current' individual price of the new tariff (i.e., p_{t-1}) will be set equal to the current parent tariff;
- the network provider will be expected to submit a 'reasonable estimate' of the relevant quantities *that would have been sold* under the new tariff in year $t-2$, if the proposed new tariffs had been offered in that year. These estimates of q_{t-2} will be used in applying the tariff basket to the proposed new tariff; and
- consistent with the estimate above, the network provider will also be expected to submit a 'reasonable estimate' of the quantities *that would*

have been sold under the existing parent tariff in year $t-2$ if the proposed new tariffs had also been offered in that year. This estimate of q_{t-2} will be used in applying the tariff basket to the parent tariff.

4.17 In the very limited situations where there is no existing parent tariff, the Commission will consider any evidence presented by the network provider to support the reasonableness of its estimates, and will take into account any particular difficulties arising in individual cases.

How will non-standard services, and negotiated tariffs, be dealt with?

4.18 Reference network access tariffs represent the maximum tariff that can be applied to a customer taking a defined service. In some cases, customers may negotiate tariff variations that reflect their specific service requirements or opportunities for network bypass. Negotiated prices may conceivably contain discounts or premia to existing reference tariffs.

4.19 Because reference tariffs represent the maximum that may be charged for a defined service, the Commission will require negotiated tariffs that differ from existing reference tariffs – in a manner consistent with the Commission’s discounting guidelines – to be included within the tariff basket as new reference tariffs.

4.20 Tariff discounting can be efficient where it avoids network bypass by the customer that would otherwise occur and where the discounted tariff exceeds the incremental cost of providing the service. In cases where discounted tariffs comply with the Commission’s discounting guidelines, the Commission will allow the discounted tariffs to be included within the tariff basket as new tariffs at the next tariff approval. The effect of this will be to allow the value of the discount to be recovered by the network provider from other network users. This approach to the treatment of efficient discounting is consistent with general practice in the national electricity market.

Deciding on base year changes [determining the Z factors]

4.21 Applying a price cap, rather than a revenue cap, aims to provide a light-handed regulatory approach with low compliance and regulatory costs through uncoupling allowed prices from the regulated network provider’s costs of operation. However, this assumes that the existing price levels and initial cost base are ‘about right’.

4.22 In the first regulatory control period, annual revenue requirements for each full year of the regulatory control period were estimated, based on a building blocks approach, in June 2000. Tariffs were then derived to recover the required revenue. Over time it is likely that actual results will have diverged from estimates – that is, actual costs will have varied from the cost estimates made in June 2000, while actual revenue generated by the approved tariffs may also have varied from the revenue anticipated.

4.23 Thus, before applying the Commission’s proposed methodology (a price cap approach) for the second regulatory control period, the Commission first proposes to re-examine the network provider’s current costs of operation to ensure the initial cost base from which a tariff basket will be developed reflects efficient costs of supply.

What year?

4.24 In chapter 2, the Commission noted that it would estimate the Z factors by undertaking a building blocks (i.e., cost-based) exercise with respect to the 2002-03 year. This choice of the 2002-03 year reflects the fact that no building blocks analysis was performed for 2003-04 – the extended year of the first regulatory control period –

and that actual values for 2003-04 will not be available in time for the calculation in November 2003.

4.25 Even with respect to the 2002-03 year, there are some complications to be considered, namely:

- costs relating to streetlighting (both capital and operating costs) were excluded from the June 2000 calculation – to ensure consistency with the earlier calculation, streetlighting costs will be excluded from the building blocks update to be undertaken in November 2003; and
- the original building block calculation underlying DKTL costs was undertaken in May 2001 – as both the June 2000 and May 2001 calculations were done in real terms, the Commission plans to add the two together for the comparison with the November 2003 update with respect to the 2002-03 year.

What factors will influence the base year revisions?

4.26 There are, in essence, two factors that will influence the Commission's revisions to the base year:

- variations between the building blocks estimate for the 2002-03 financial year in June 2000 and the updated building block estimate for 2002-03 based on actual data; and
- variations for any expected under or over-recovery of revenue in 2002-03.

4.27 Thus, the Z factor can be expressed as follows:

$$Z_r = f(P_0''/P_0, R_0''/R_0)$$

where:

P_0''/P_0 = the extent to which approved tariffs may under- or over-recover the first regulatory control period's revenue cap during the year in question (the "revenue recovery component"); and

R_0''/R_0 = the extent to which the first regulatory control period's revenue cap may under- or over-estimate the underlying costs evident during the year in question (the "building blocks component").

What is the Commission's proposed approach for determining the revenue recovery component of the Z factor?

4.28 The Commission will give consideration to both:

- the extent to which under- or over-recovery was evident in the 2003-04 year (rather than the 2002-03 year), as the resultant Z factor is to be applied to the 2003-04 year's weighted average of approved individual tariffs; and
- the extent to which end-users deserve some clawback of the over-recoveries evident in the 2001-02 and 2002-03 years and the impact this may have upon incentives for the network provider.

What is the Commission's proposed approach for determining the building blocks-based component of the Z factor?

4.29 Each geographically distinct network – Darwin/Katherine, Alice Springs and Tennant Creek – will be considered separately, which may result in the Z factor differing between regions.

4.30 The Commission proposes to undertake an updated building blocks analysis for each network to establish the level of efficient costs required to provide network access services in each region.

4.31 In line with the methodology used in the first regulatory control period, the Commission proposes to use a building blocks analysis to derive an efficient level of costs that will form a notional revenue requirement (“NRR”) for the network provider for 2002-03. The building blocks formula can be expressed as follows:

$$\text{NRR} = (\text{CAPITAL} * \text{WACC}) + \text{DEP} + \text{OMA}$$

where:

- the CAPITAL*WACC term represents the allowed return on capital;
- the depreciation (DEP) term represents the allowed return of capital; and
- the OMA term represents the allowed return of operating costs.

Regulated asset base

4.32 In line with the methodology adopted in the first regulatory control period, the Commission proposes to once again adopt a Depreciated Optimised Replacement Cost (“DORC”) method to value the assets employed by the network provider in providing regulated network access services.

4.33 In its submission to the Issues paper, Power and Water advised that:

“In determining the regulatory asset base for the reset process, Power and Water intends to index to 30 June 2004, using the 30 June 2001 replacement cost valuations conducted by Sinclair Knight Merz (“SKM”). This is because an updated independent asset revaluation would not provide any significant benefit to consumers, enhance regulatory outcomes, or improve signals sent to consumers through tariffs.”

4.34 However, clause 6 of schedule 7 of the Code requires that, in valuing network assets for second and subsequent regulatory control periods:

“Subsequent revaluation of assets brought into service after 1 July 1999 and subsequent valuation of existing assets generally in service on 1 July 1999 (for use during the second or subsequent regulatory control periods, where the revaluations are to be used for regulatory purposes) are to be undertaken on a basis to be approved by the regulator.”

4.35 In determining whether to retrospectively approve this valuation for regulatory purposes, the Commission will consider the following issues:

- is there any significant variation in the value of the asset base attributable to something other than a roll forward of the asset base in the first regulatory control period to reflect depreciation, inflation and capital expenditure; and
- where new assets have been added to the regulatory asset base:
 - whether they are new assets, and if so constitute efficient investment on the part of the network provider (as opposed to ‘gold-plating’ or unnecessary expense that should be borne by the shareholder rather than network users); or
 - whether they are ‘discovered’ assets (that is assets that existed at the time of the first regulatory control period valuation, but were not identified as network assets at that time), in which case consideration will be given as to whether they constitute candidates for optimisation.

4.36 In line with the first regulatory control period, the Commission proposes to use the following formula to measure the capital base (CAPITAL):

$$\text{CAPITAL} = [\text{WC} + (\text{DORC} - \text{CAPCON}) + 0.5 * (\text{CAPEX} - \text{DECOM}) * (1 + \Delta \text{PI})^{-1/2}]$$

where:

- WC = the working capital required to finance the network’s operations;
- DORC = the depreciated optimised replacement cost of the network’s fixed assets at the beginning of the financial year;

CAPCON = the capital contributions received net of any amount amortised, to the extent that the resultant assets constructed have increased the gross DORC;

CAPEX = the capital funds that are expected to be expended in the financial year in connection with the creation or upgrade of network fixed assets;

DECOM = the DORC of those network assets expected to be decommissioned in the financial year before the end of their economic life; and

Δ PI = the forecast change in an appropriate price index for the financial year (%).

4.37 In line with the Commission's approach in the first regulatory control period, gifted assets and the value of any capital contributions will be excluded from the regulated asset base.

Weighted average cost of capital (WACC)

4.38 The weighted average cost of capital ("WACC") measures the allowed ('fair and reasonable') rate of return on the regulated asset base.

4.39 The WACC should provide a rate of return that ensures the continuing financial viability of the network provider, providing incentive to undertake efficient investment in new and replacement assets but not so high as to involve the extraction of monopoly rents. It is the rate of return that would be possible in the industry concerned were competitive forces at work ensuring that only a normal rate of return was being earned on capital employed.

4.40 There are a number of issues surrounding the application of the WACC – whether it should be determined as pre-tax or post-tax and whether a real or nominal approach should be applied.

4.41 While regulatory practice at the commencement of the first regulatory control period favoured the use of a pre-tax real WACC, recent experience in this area is mixed. The Australian Competition and Consumer Commission and the Queensland Competition Authority have both adopted a nominal post-tax approach in recent decisions, while the Essential Services Commission in Victoria has chosen to use a real post-tax approach. The Office of Gas Access Regulation in Western Australia continues to use a pre-tax real approach, and both IPART and the Independent Competition and Regulatory Commission in the ACT have indicated that they are also likely to use a pre-tax real approach in forthcoming decisions.

4.42 The Commission proposes to once again use a pre-tax real WACC, incorporating a statutory corporate tax rate, consistent with its determinations in the first regulatory control period, on the basis that:

- the proposed use of the WACC is limited to an updating on account of differences between forecast and actual costs during a base year;
- a pre-tax approach is most appropriate for government-owned entities such as Power and Water where taxes and dividends are paid to the same body; and
- a real, as opposed to nominal, approach is easy to apply to a real regulatory base and does not risk the locking in of a given inflation assumption.

4.43 Power and Water also supported this approach in its submission on the Issues Paper.

4.44 In line with the first regulatory control period and consistent with schedule 8 of the Code, the real-terms pre-tax WACC ($WACC_r$) will be calculated using the following formula:

$$WACC_r = \left[\frac{(1 + WACC_n)}{(1 + \Delta PI)} \right] - 1$$

where:

$WACC_n$ = nominal pre-tax weighted-average cost of capital (%); and

ΔPI = expected annual inflation rate (%).

4.45 Schedule 8 also specifies that the nominal pre-tax WACC ($WACC_n$) is to be calculated using the following formula:

$$WACC_n = [R_e / (1 - T^*(1-G))] * (1 - D/C) + (R_d * D/C)$$

where:

R_e = the required post-tax rate of return on equity;

T = the corporate tax rate;

G = the imputation factor (measuring the value of franking credits);

D/C = the ratio of debt to capital employed; and

R_d = the pre-tax cost of debt.

4.46 Schedule 8 defines R_e as follows:

$$R_e = R_f + (\beta_e * MRP)$$

where:

R_f = risk-free rate of return on capital;

β_e = equity beta; and

MRP = market risk premium.

4.47 The Commission will also again measure the equity beta (β_e) as follows (using the Monkhouse formula):

$$\beta_e = \beta_a + (\beta_a - \beta_d) * [(1 - R_d / (1 + R_d)) * T^*(1-G)] * D/E$$

where all the terms are as defined above except:

β_a = asset beta.

4.48 Schedule 8 defines R_d as follows:

$$R_d = R_f + DRP$$

where:

R_f = risk-free rate of return on capital; and

DRP = debt risk premium.

4.49 While the parameter values to be incorporated into these formulae will be considered in more detail in the Commission's draft determination, consistent with its decisions in the first regulatory control period, the Commission is likely to again favour the use of mainly industry-wide, rather than utility-specific, values for the 'specific' parameters, while taking into account circumstances in the Northern Territory.

Depreciation

4.50 Depreciation is the mechanism by which invested capital is returned to owners of a network business over the anticipated economic life of depreciable assets. The central issue is not whether capital should be returned to investors, but the pattern of, and period over which, the invested capital should be returned.

4.51 The Commission proposes to use the same method for calculating the depreciation (or return of capital) building block as in the first regulatory control period, that is assuming that assets are typically acquired or decommissioned at the

mid-year point and using the straight-line depreciation method, in line with the following formula:

$$DEP = D_{CUR} + 0.5 * (D_{NEW} - D_{DEC})$$

where:

$$D_{CUR} = DORC * (1/L_C)$$

with:

D_{CUR} = depreciation charge for the year based on assets in service at the start of the year;

DORC = depreciated optimised replacement cost of the network's fixed assets at the beginning of the financial year; and

L_C = average remaining economic life (in years) of current assets;

and:

$$D_{NEW} = CAPEX * (1/L_N)$$

with:

D_{NEW} = depreciation on new assets added during the financial year;

CAPEX = the capital funds that are expected to be expended in the financial year in connection with the creation or upgrade of network fixed assets; and

L_N = average economic life (in years) of new assets; and

and:

$$D_{DEC} = DECOM * (1/L_D)$$

with:

D_{DEC} = the adjustment to depreciation for assets decommissioned during the financial year;

DECOM = the DORC of those network assets expected to be decommissioned in the financial year before the end of their economic life; and

L_D = average remaining economic life (in years) of assets being decommissioned.

Operating and maintenance costs

4.52 In the first regulatory control period, the Commission expressed some concerns about the data provided by Power and Water with respect to operations and maintenance costs. The Commission noted in particular that it considered Power and Water's documentation of the basis of allocation of common costs both between the various Power and Water businesses (water, sewerage, electricity networks, electricity generation, etc) and between the regions of operation to be inadequate.

4.53 In April 2001, the Commission engaged Ernst and Young to undertake an examination of Power and Water's cost allocations and the associated policies and procedures. The focus of this review was on identifying corrective action going forward, and any constraints – internal or external – in this regard.

4.54 While identifying some deficiencies, Ernst and Young concluded the cost allocation methodologies utilised by Power and Water were generally in accordance with the principles included in the revised Ring-Fencing Code planned to be applicable from 1 July 2000.

4.55 Of more significance will be the extent to which actual O&M costs in 2002-03 are discounted on the grounds that these costs do not represent efficient

costs. In the benchmarking study of Power and Water's network O&M costs undertaken in 2002, Meyrick concluded that:

"After allowing for differences in functional coverage and factors beyond management control, PWP's current unit O&M costs would have to be reduced by around 20 per cent to reach best practice. Ten years appears to be a reasonable timeframe for removing the performance gap implying a reduction in the current unit O&M cost of two per cent per annum."

4.56 As an indication, the Commission expects to adopt the following approach:

- a reasonable period ("glide path") in which to eliminate the 20% differential would be 10 years, that is by the end of the third regulatory control period (or 2% a year); and
- the Commission will assume that a proportionate effort has been achieved between 1999-00 and the timing of the benchmarking study, with the 2002-03 O&M data for use in the building blocks update being the actual 2000-01 O&M date reduced (in real terms) by this proportionate effort.

4.57 The Commission recognises that there is an inter-relationship between the resultant Z factor and the Y factor (discussed below). The Commission will take particular care to ensure that no double-counting of the efficiency task takes place.

Choosing the CPI

4.58 The draft decision involves the use of the All Groups Consumer Price Index – Average of the Eight State Capitals published by the ABS.

4.59 The Commission proposes to measure the CPI term:

- for the year t-1, by the most recently published quarterly index published by the ABS;¹⁶ and
- for the year t-2, by the index value published in respect of the equivalent quarter in the previous year.

Determining the "X factor"

4.60 X is a factor determined by the Commission prior to commencement of the second regulatory control period which indicates the difference between annual movements in consumer prices on average and in electricity network access prices on average in Australia, to be based on the X factors typically applying to best practice (i.e., efficient) network providers in other jurisdictions.

4.61 In principle, there are two alternative methods for setting the value of X:

- relating X directly to available annual real-terms reductions in aggregate costs (the direct approach); or
- using X as a smoothing device, with available efficiencies being separately factored-in to each building block cost category to give annual revenues and the X factor being the value which achieves the present value of revenues summed over the period.

4.62 The direct approach involves setting the X factor to capture available efficiencies. It is not strictly a productivity measure, but a proxy for available efficiencies.

¹⁶ This will typically be the December quarter CPI.

4.63 The X factor is a pre-determined annual scaler applied to the network provider's forecast revenue without reference to its actual earned rate of return. It represents the percentage reduction in revenue the network provider is deemed capable of achieving, taking account of efficiency improvements, without jeopardising its financial integrity. If the network provider can realise efficiency gains at a faster rate, then it can keep all or some percentage of such gains. If not, the network provider's rate of return suffers.

4.64 The issues that might be considered in quantifying an X factor under this approach include:

- the capacity of the network provider to reduce costs without compromising customer service quality requirements;
- the opportunities available to the network provider to increase the value of its business;
- the advantages and opportunities to encourage growth in the market;
- the ability of the organisation to finance its operations;
- the impact of asset valuation approaches, in particular the impact of optimisation, on realistic productivity improvement capabilities; and
- desired transitional paths to allow a period of adjustment to new rates.

4.65 Some proponents of the direct approach stress the use of industry-wide (that is, independent) benchmarks, while others embrace the use of organisation-specific benchmarks. In translating anticipated cost savings to the determination of the X factor, the former only involves account being taken of the future scope for productivity improvements in the regulated industry as a whole, whereas the latter also takes account of the scope for productivity improvements in the network provider relative to productivity growth in the industry as a whole.

4.66 The Commission agrees with Power and Water that it is too early to use the total factor productivity (TFP) based approach:

"In a June 2002 report for the Utility Regulators Forum, Farrier Swier found that while Total Factor Productivity ("TFP") based approaches appear superior to building blocks approaches:

"the economic incentives effects of the various approaches are affected by details of component instruments and parameters as much as by the approach per se. Accordingly, we cannot draw categorical conclusions about the absolute effectiveness of general approaches without considering detailed designs.

This report also highlighted the practical and implementation issues associated with the use of productivity based approaches and suggested that further preliminary work be undertaken prior to the TFP approach being implemented in the Australian context.

...There has been considerable interest in the use of TFP, as discussed above, and other index-based approaches to setting the X-factor. However these approaches have not yet been incorporated as part of the regulatory reset process.

In its Final Decision for Transgrid, the ACCC estimated efficiency gains based on a "preliminary" TFP analysis. However, this was only used for comparison purposes and the ACCC chose to use the indirect approach to set the X factor. It had previously noted in its draft decision that anticipated efficiency gains were included in the network operating expenses as:

"... the Commission was not in a position to derive a single point estimate of likely efficiency gains (e.g. determining the overall X factor using total factor productivity analysis)".

Given the timeframe available for this reset, Power and Water considers it unreasonable to suggest that these issues can be addressed or overcome."

4.67 Instead, the Commission proposes to choose an X factor that typically applies to best practice (i.e., efficient) network providers in other jurisdictions. In applying this approach, the Commission will document its sources. Care will be taken

to exclude the “movement towards best practice” component evident in X factors applying in other jurisdictions.

Determining the Y factor

4.68 Y is a factor determined by the Commission prior to commencement of the second regulatory control period which indicates the difference between annual movements in electricity network access prices applied on average by best practice (i.e. efficient) network providers in other jurisdictions in Australia and by the network provider in the NT.

4.69 Consistent with the approach taken in estimating the Z factors, the Commission expects to calculate the Y factor using a 10 year glide path to eliminate the 20% differential identified in the Meyrick benchmarking study.

4.70 The resultant annual efficiency factor would also need to be scaled to reflect the relative size of O&M costs in total network costs (including capital costs).

Determining the S factor (side constraints)

4.71 The Commission is mindful that excessive side constraints can dampen the incentive for the network provider to move towards a cost-reflective tariff structure. Encouraging such movements is among the key objectives of moving to a price cap approach. The only rebalancing that should be discouraged is that associated with attempts at revenue optimisation rather than efficiency. Regrettably, it is hard to distinguish between these two types of rebalancing.

4.72 In setting any side constraints, the Commission proposes to err on the high side, but not too high. Side constraints are intended to assign some risk to the network provider, to increase the incentive on the provider to make the pricing structure as cost reflective as possible in advance rather than to rely on reactive year-on-year tariff changes as developments unfold.

4.73 The Commission acknowledges that careful judgment will be required on its behalf when setting the side constraints to balance these various considerations.

CHAPTER

5

RESET PROCESS ISSUES

Views in submissions

5.1 In its submission, Power and Water was critical of the reset process being followed by the Commission:

“Power and Water has concerns about the reset process proposed in the Issues Paper. This is because:

- The timetable is too short, which limits the prospect of good regulatory outcomes for Power and Water, its customers and the NT electricity market;*
- The reset will need to be consistent with the requirements of the Network Access Code (“the Code”), which is currently part way through a review process. Therefore it is currently very difficult for Power and Water or any stakeholder, to pass views on the appropriate treatment of issues, when the framework for their resolution is uncertain; and*
- The Issues Paper does not contain sufficient information for Power and Water to adequately prepare its submission.”*

5.2 Power and Water provided no further argument or substantiation for the third point, so it is not discussed further here except to say that the Issues Paper was intended to raise issues and to seek views. It is disappointing that Power and Water seemed to be expecting detailed proposals to which it could respond, rather than to take the opportunity to share with the Commission how Power and Water’s own thinking has been developing over the last three years.

5.3 The remainder of this chapter looks at the first two areas of concern canvassed by Power and Water regarding the reset process.

Consultation process and timetable

Commission’s approach

5.4 When reviewing the price regulation methodology, clause 62(2) of the Code requires the Commission:

“...to conduct all its determination and approval processes in an open, transparent and competitively-neutral manner, including by consulting with network users, end-use customers, members of the public and all licensed electricity entities that may be affected, directly or indirectly, by the resultant prices.”

5.5 The Commission is therefore required to determine the methodology to be used in regulating network access prices in the second regulatory control period by facilitating public consultation and promoting wide-ranging discussion of the issues by all stakeholders.

5.6 The timetable guiding the Commission’s consultation process as advised in the Issues Paper is as follows:

Target	Event
10 July 2003	Commission's Issues Paper published
22 August 2003	Submissions on the Issues Paper due
15 September 2003	Publication of the Commission's Draft Methodology Report on the price regulation methodology to apply in the second regulatory control period
24 October 2003	Submissions on the Draft Methodology Report due
mid November 2003	Publication of the Commission's Final Methodology Report on the price regulation methodology to apply in the second regulatory control period, including the data requirements for applying the revised methodology
early December 2003	Publication of the Commission's Draft Determination of the numerical value of the parameters required by the price regulation methodology applying in the second regulatory control period
end December 2003	Submissions on the Draft Determination due
end January 2004	Publication of the Commission's Final Determination of the numerical value of the parameters required by the price regulation methodology applying in the second regulatory control period
end March 2004	Publication of the Commission's approval of the tariff schedules for 2004-05

Views in submission

5.7 Power and Water expressed particular concerns about the timetable being followed by the Commission:

"Power and Water considers that the timetable foreshadowed for the reset process is unrealistically short. The risk is that this will limit the opportunity for good regulatory outcomes. This is because:

- *There is insufficient time to take into account any changes in the form of regulation that may arise, and to make an informed judgement of the potential impacts on Power and Water's customers.*
 - *Under the timeframe proposed by the Commission, Power and Water has just three months to consider alternative forms of regulation and then just 5 weeks from notification of the new form of regulation to develop their quantitative reset submission. The table at Appendix A [of Power and Water's submission] shows the time taken for similar processes elsewhere in Australia, further illustrating the haste of the NT process by comparison;*
 - *Furthermore, it is expected that any change in the form of regulation will be notified (in the Final Methodology Report) just seven months before the new framework is to be operational. In contrast, the National Electricity Code requires regulators to give two years prior notice to the distribution network owner of a change in the form of regulation.*
- *The process makes no allowance for a Draft Decision. Every reset conducted in Australia has allowed for a Draft Decision, subject to public consultation, prior to a Final Decision being released. This is important because it:*
 - *Allows Power and Water to model any changes proposed by the Commission that were unexpected, and to advise the Commission whether these changes have any adverse consequences on other aspects of the pricing package;*
 - *Provides customers with the opportunity to debate the merits of the Draft Decision, prior to it being implemented and having an impact on prices paid for electricity; and*
 - *Would help the Commission ensure that regulatory decisions take account of 'the network provider's legitimate business interests and investment in the electricity network', which is a requirement set out in clause 2(2) of the Code."*

Commission's view

5.8 The Commission is perplexed by the views of Power and Water, to say the least.

5.9 As to the suggestion that too little time has been allowed for the reset, the two years notice period required under the National Electricity Code of a change in the form of regulation does not apply in the NT. In the recent review of the NT Code, Power and Water did not raise this as an issue. Moreover, the longer the time period available for a reset, the more resources are absorbed by the exercise, contrary to Power and Water's desire for streamlined and low-cost processes. Power and Water had had three years to formulate its views on the issues. In fact, the first regulatory control period was extended by one year (in a decision taken twelve months ago) to give Power and Water the time it said it needed to consider the issues. If Power and Water did not use the intervening period for this purpose, it seems unreasonable for it to now complain about the lack of time. In the NT context, the Commission considers that the timeframe available for the 2004 reset is more than ample provided that the parties involved take the process seriously. For its part, the Commission is confident that the time available for this review will ensure that the interests of all the parties are given appropriate consideration.

5.10 As to the suggestion that "the process makes no allowance for a Draft Decision", this makes no sense to the Commission. The reset process allows for not one but two draft decisions, one relating to regulatory methodology ("Draft Methodology Report") and one relating to quantification and implementation of the chosen methodology ("Draft Determination"). Power and Water's erroneous comment cannot go unobserved.

Anticipated amendments to the Code**Commission's approach**

5.11 In April 2003, the Commission conveyed certain recommendations to the Treasurer as Regulatory Minister following an Inquiry into the Code's effectiveness under section 31 of the *Utilities Commission Act 2000*. As documented in Appendix B, of those recommendations involving changes to the Code, seven related directly to the pricing regulation provisions of the Code (and associated schedules).

5.12 As noted in the Issues Paper, the Commission intends to undertake its deliberations for the current review on the basis that these price-related amendments are made to the Code. The Commission has made no such assumption about the other (non-price) assumptions. The Commission understands that the Minister will be in a position to amend the Code prior to the publication of the Commission's final decision on the pricing regulation methodology.

Views in submission

5.13 Power and Water expressed particular concerns about the unfinished review of the Code:

"Power and Water's pricing submission to the Commission will need to be in accordance with the Code. The Code is currently part way under review and is not expected to be finalised until early 2004. Hence Power and Water will not know the final form of the Code prior to putting forward its pricing submission to the Commission. It is therefore requested that the Commission work with Government to provide greater certainty with regard to the precise amendments to the Code that will, and will not, come into effect in the second regulatory period, by agreeing a framework to incorporate changes in the regime into the Maximum Revenue and tariffs, where that is appropriate.

This is important because prices and revenues put forward in the submission will need to make assumptions as to the final amendments to the Code:

- The introduction of a class of excluded services is not yet resolved (recommendation 49). Power and Water proposes to classify certain services as excluded services in calculating the Maximum Revenue cap and associated tariffs. If this change does not occur, the pricing submission will need to be recalculated and the tariffs reformulated before the submission is lodged;
- The Commission's recommendations relating to Power and Water's liability for certain matters are not yet resolved. The Final Report made recommendations (in particular recommendations 17 and 38) that will impose additional costs on Power and Water if adopted. Power and Water did not support these recommendations. As the Commission did not take a view as to whether these changes should be made (merely noted them for further Ministerial consideration), these costs have not been considered as operational costs for the purposes of assessing Maximum Revenue. If these Code changes are made, and these potential costs become actual costs, a short-fall will arise. This will impact on dividends paid to the Northern Territory Government, as shareholder; and
- Power and Water needs to make assumptions about proposed changes to the Code when forecasting operational costs. Recommendations which foreshadow increased regulatory scrutiny (for example, recommendation 59A relating to capital contributions) will impose additional legal or other costs as Power and Water staff are redirected from other work.

In clause 1.11 of the Issues Paper, the Commission notes that it intends to undertake its deliberations for the current review on the basis that amendments to the Code will be undertaken consistent with the Commission's recommendations to the Minister. The Commission further notes that the Minister will be in a position to amend the Code prior to the publication of the Draft Methodology Paper, five weeks before Power and Water's submission is made to the Commission.

It will be extremely difficult for Power and Water to make judgements on forecast costs and service levels in the absence of the final form of the Code. This is because the proposed changes to the Code (for example the absence of regulatory certainty as to whether a new investment will or will not be regulated) have significant implications on investment decisions and the ability to forecast costs."

Commission's view

5.14 The Commission shares some, but by no means all, of Power and Water's concerns regarding the timing of Code changes.

5.15 The Commission's concerns are limited to the seven recommendations relating directly to the pricing provisions of the Code (and associated schedules).¹⁷ As the Government has made no decisions on the these recommendations, the Commission has advised parties to the reset that:

- for the time being, the Commission will undertake its deliberations for the reset on the assumption that the Government will accept the *pricing-related* amendments made to the Code; and
- the Commission expects to be in a position to confirm or modify this assumption prior to publication of its Final Methodology Report (expected by mid-November 2003).

5.16 From the Commission's perspective, therefore, it is imperative that the end date for decision on the *pricing-related* amendments to the Code be no later than 31 October 2003. If this were not to be the case, the timetable that the Commission has committed to would inevitably slip.

5.17 For completeness, the Commission includes at Appendix B the drafting instructions it has proposed to NT Treasury giving effect to the *pricing-related* amendments to the Code, and so the form of the Code the Commission is working within. The Commission has received no indication that these instructions are not being acted upon in the main.

¹⁷ These are recommendations 46, 47, 49, 50, 51, 53 and 54.

5.18 The Commission does not share Power and Water's concerns with regard to the non-pricing recommendations of the Code review. The bulk of these recommendations nominate topics deserving further review together with a review mechanism for this purpose. By their nature, a good deal of time may elapse before some of these topics are addressed. It is not practicable to delay the reset until these issues are settled. Under the national electricity code, for example, the code change process is on-going and changes have been implemented without direct repercussions for network pricing.

5.19 The Commission does not deny that some of the non-pricing recommendations could have cost implications for Power and Water. Even so, the resultant cost increases are not of a kind that would impact on incentive-compatible regulatory assessments. The costs that are relevant for price regulation purposes are efficient and forward-looking costs, not the network provider's actual costs. Generally speaking, incentive regulation does not validate a service provider's resourcing decisions.

5.20 Most of Power and Water's particular arguments in this area are exaggerated. The fact that Power and Water devoted no resources to developing capital contributions policies during the first regulatory control period when such policies were already a requirement of the Code was of its own choosing. The fact that Power and Water is expressing concern about the difficulty it may have in forecasting costs and service levels means that it is getting a taste of what is considered normal by firms operating in the 'real world' of competitive markets. As to excluded services, the Commission's proposed approach is to minimise such exclusions. There will be no material exclusions.

5.21 The Commission therefore rejects Power and Water's claim that unresolved changes to the Code could have "significant implications on investment decisions and the ability to forecast cost". This greatly exaggerates the likely implications of particular recommendations, let alone the extent to which recommendations made will eventually lead to changes to the Code.

APPENDIX

A

NOTICE TO CONTESTABLE CUSTOMERS

NOTICE TO CONTESTABLE CUSTOMERS
2004 REGULATORY RESET

The price that you, as a contestable customer, pay for your electricity supply has three components:

- a wholesale *energy* (or generation) component;
- a *retail* margin; and
- a *network* usage charge relating to the transport of electricity from generators to end-use customers.

In the Northern Territory, the network usage charge is regulated under a Networks Access Code, which is a schedule to the *Electricity Networks (Third Party Access) Act 2000*. This networks charge can account for up to 40% of the total (or retail) price typically paid by contestable customers.

The price regulation methodology used by the Commission since 1 April 2000 is due to be reviewed by 30 June 2004. The Commission is required to review this methodology in consultation with all interested parties, including contestable customers.

To initiate the review (referred to as the “2004 Regulatory Reset”), the Commission has released an *Issues Paper*. As that paper is quite detailed and technical in nature (and available on the Commission’s website), the Commission has also prepared a more accessible ‘*Guide to the Issues*’. A copy of the Guide is enclosed for your information and consideration.

The Commission urges all stakeholders, and contestable customers in particular, to take full advantage of this opportunity to have a say about the regulation of network usage charges. This opportunity only comes around once every five years.

The Commission invites you to make a submission concerning the issues raised in the *Guide* (or the more detailed *Issues Paper*) or on any related matter. The Commission’s contact details can be found in the *Guide*.

The Commission will accept all submissions received prior to **Friday 22 August 2003**.

The Commission also urges you to update your contact details by completing and returning the enclosed form, so that we can more effectively keep you informed of developments affecting the prices you pay for electricity in the NT. These developments not only relate to network usage charges, but also the re-regulation expected over coming months of the wholesale energy component of contestable electricity prices (which typically accounts for a further 50% of the total retail price of electricity), and the Commission’s role in this regard.

Alan Tregilgas
Utilities Commissioner
for the Utilities Commission
16 July 2003

APPENDIX**B****PRICE-RELATED AMENDMENTS TO THE CODE**

The Commission has proposed the following drafting instructions to give effect to the following price-related recommendations made in the final report of its review of the effectiveness of the Electricity Networks (Third Party Access) Code, being a schedule to the *Electricity Networks (Third Party Access) Act*:

Recommendation 46	Clause 63 of the Code should be amended to include an additional paragraph referring to such other outcomes as the regulator determines are consistent with the objects of the Code.
Recommendation 47	Clause 63 of the Code should be amended to explicitly include in the pricing principles that regulated access prices are to be set so as to generate expected revenue for a regulated service or services that is at least sufficient to meet the efficient long-run costs of providing that regulated service or services, and includes a return on investment commensurate with the regulatory and commercial risks involved.
Recommendation 49	Clause 72(2)(b) of the Code should be amended (a) to include within the class of 'included services' those services provided by the network provider which in the regulator's opinion do not lend themselves to being regulated via the general price control mechanisms set out in chapters 6 and 7 of the Code; and (b) to provide that (i) a network provider should be required to provide these types of 'included services' to network users on fair and reasonable terms and (ii) the regulator may determine the fair and reasonable terms which should apply to the provision of that 'included service' if the network user and the network provider are unable to reach agreement.
Recommendation 50	The definition of 'regulatory control period' in clause 3 of the Code should be amended to remove any doubt that such periods in future are to be five years in length.
Recommendation 51	Part 3 of the Code (and associated schedules) should be amended as soon as possible to remove any doubt that the price control methodology to be used in the second and subsequent regulatory periods is to be determined by the regulator, in consultation with interested parties, in accordance with generally accepted regulatory best practice current at the time.
Recommendation 53	Clause 67(2) of the Code should be deleted.
Recommendation 55	Clause 74 of the Code should be amended to provide that, in the event of any conflict with the clause 63 pricing principles, the clause 63 principles will prevail.

Recommendation 46

To give effect to this recommendation, amendments need to be drafted along the lines of the suggested changes marked up in the extracts from Part 3 of the Code at the end of this Appendix at the following clauses:

- insertion of new paragraph at (g) of clause 63.

Recommendation 47

To give effect to this recommendation, amendments need to be drafted along the lines of the suggested changes marked up in the extracts from Part 3 of the Code at the end of this Appendix at the following clauses:

- insertion of new paragraphs at (aa) of clause 63; and
- changes to clause 68(e).

Recommendation 49

To give effect to this recommendation, amendments need to be drafted along the lines of the suggested changes marked up in the extracts from Part 3 of the Code at the end of this Appendix at the following clauses:

- changes to clause 72(2); and
- insertion of subclauses after 72(2).

Recommendation 50

To give effect to this recommendation, amendments need to be drafted along the lines of the suggested changes marked up in the extracts from Part 3 of the Code at the end of this Appendix at the following clauses:

- revision to the definition of “regulatory control period” in clause 3.

Recommendation 51

To give effect to this recommendation, amendments need to be drafted along the lines of the suggested changes marked up in the extracts from Part 3 of the Code at the end of this Appendix at the following clauses:

- additions of definitions of “generally accepted regulatory practice” and “price cap” in clause 3;
- changes to clause 62(1)(a);
- changes clause 62(2);
- addition to chapter heading above clause 66;
- changes clauses 66(1) and (2);
- addition of a subclause (3) in clause 66;
- changes to clause 67(1);
- addition to clause heading for clause 66;
- changes to opening sentence of clause 68;
- changes to clauses 69(1) and (3);
- addition to clause heading for clause 70;
- changes to clauses 70(1) and (2);
- addition to clause heading for clause 71;
- changes to clause 71;
- addition to clause heading for clause 72;
- changes to clause 72(1);

- changes to clauses 73(1) and (3);
- changes to paragraph 1 of Schedule 6;
- changes to paragraph 6 of Schedule 7;
- changes to paragraph 1(2) of Schedule 8;
- changes to subparagraphs (1A) and (5) of Schedule 9; and
- changes to paragraphs 1(1), 2(1) and 2(2) of Schedule 6, and insertion of a new subparagraph 2(1A).

Recommendation 53

To give effect to this recommendation, amendments need to be drafted along the lines of the suggested changes marked up in the extracts from Part 3 of the Code at the end of this Appendix at the following clauses:

- deletion of clause 67(2).

Recommendation 55

To give effect to this recommendation, amendments need to be drafted along the lines of the suggested changes marked up in the extracts from Part 3 of the Code at the end of this Appendix at the following clauses:

- making the existing clause 74 into subclause (1); and
- insertion of an additional subclause (2).

ELECTRICITY NETWORKS (THIRD PARTY ACCESS) CODE

3. Key definitions

In this Code, unless the contrary intention appears –

...

“generally accepted regulatory practice” means the conventions, rules and procedures in use at a particular time by leading jurisdictional regulators in Australia when choosing and applying economic regulation methodologies to a power system for the generation, transmission, distribution and supply of electricity and consistent with applicable laws;

...

“price cap” means the maximum average price determined by the regulator to be charged during a financial year, or nominated part of a year, for all regulated network access services by the network provider;

...

“regulatory control period” means the period between major price reviews during which time the methodology used in setting prices is held constant; the first regulatory control period is the period between commencement of the Code and 30 June 2004 and the second and subsequent regulatory control periods is expected to be the five yearly periods commencing between 1 July 2004 and 30 June 2009;

...

PART 3 – ACCESS PRICING

60. Purpose of Part

(1) This Part sets out the principles to be followed by the regulator and by providers of access services when setting regulated prices to be paid by network users for the conveyance of electricity through an electricity network covered by this Code.

(2) This Part covers both the pricing of network access services provided by the network provider and the pricing of out-of-balance energy.

Chapter 5 – Pricing principles

61. Pricing schedules

(1) At least 30 days before the commencement of each financial year, or before any new prices take effect, pricing schedules must be published for the financial year by each provider of regulated services.

(2) For the purpose of this Part of the Code, and unless a contrary meaning is suggested:

(a) a reference to a financial year shall be taken to be a reference also to the initial year, being the period between the date of commencement of access to a network as prescribed by the Regulatory Minister and the following 30 June;

- (b) a reference to a network shall be taken to be a reference to a geographically distinct network, which may be one of a number of geographically separated networks operated by the same network provider; and
 - (c) a reference to a regulated service shall be taken as a reference to network access services and the provision of out-of-balance power.
- (3) Except as provided in this Code, the tariffs contained in the network provider's pricing schedule with respect to standard network access services are to be the maximum tariffs applying to those services.
- (4) The prices and charges in respect of out-of-balance energy that are set out in the relevant pricing schedules are the exact prices and charges that network users must pay for the associated access services.

62. Role of regulator

- (1) Before pricing schedules are published, the regulator must –
 - (a) with respect to tariffs and charges to be set by the network provider for the supply of regulated network access services – determine the cap or limit on the ~~network provider's~~ total revenue to be raised from or the average price to be charged for the supply of those services in a network;
 - (b) oversee the application by the network provider of principles for setting reference tariffs to apply to standard network access services;
 - (c) oversee the application by the network provider of principles for setting of capital contributions and charges; and
 - (d) oversee the application of principles for setting of prices for the supply of out-of-balance power.
- (2) In determining or approving prices or pricing methodologies ~~or principles~~ under this Part of the Code, the regulator is to conduct all its determination and approval processes in an open, transparent and competitively-neutral manner, including by consulting with network users, end-use customers, members of the public and all licensed electricity entities that may be affected, directly or indirectly, by the resultant prices.

63. Objectives of price regulation

Price regulation under this Part must be administered to achieve the following outcomes –

- (a) efficient costs of supply;
 - (aa) expected revenue for a regulated service or services that is at least sufficient to meet the efficient long-run costs of providing that regulated service or services, and includes a return on investment commensurate with the commercial and regulatory risks involved;
- (b) prevention of monopoly rent extraction by the network provider;
- (c) promotion of competition in upstream and downstream markets and promotion of competition in the provision of network services where economically feasible;
- (ca) an efficient and cost-effective regulatory environment;
- (d) regulatory accountability through transparency and public disclosure of regulatory processes and the basis of regulatory decisions;
- (e) reasonable certainty and consistency over time of the outcomes of regulatory processes; and

(f) an acceptable balancing of the interests of the network provider, network users and the public interest; and

(g) such other outcomes as the regulator determines are consistent with the underlying principles set out in clause 2 of this Code.

64. Information disclosure by regulator

In making a determination or decision under this Part, the regulator must publish full and reasonable details of the basis of and rationale for the determination or decision including but not limited to the following –

- (a) reasonable details of qualitative and quantitative methodologies applied including any calculations and formulae; and
- (b) options considered and all discretions exercised that have a material bearing on the outcome of the regulator's determination or decision.

65. Information disclosure to regulator by service providers

(1) Before the network or service provider publishes the annual pricing schedules required under this Part, it must within a reasonable time before doing so (or a period set by this Code or by the regulator) provide the regulator with –

- (a) information relating to the proposed prices that is required under the arrangements set out in Chapters 7 and 9; and
 - (b) any other information that the regulator reasonably requires for the purpose of performing his or her functions.
- (2) Information required under subclause (1) may be in the form of forecasts and estimates.

(3) If information is provided in the form of forecasts and estimates, the forecasts and estimates must be reasonable in light of all the surrounding circumstances and past performance and may not be amended without prior notification to the regulator.

(4) The regulator may by written notice require that information provided in the form of forecasts and estimates be reviewed.

(5) The notice must specify the reason why the regulator believes the information is required to be reviewed.

(6) The network or service provider to whom the notice is given must review the forecasts and estimates and, within 7 days after receiving the notice, notify the regulator whether the forecasts or estimates have been amended or confirmed and justifying the amendments or confirming the forecasts or estimates in detail.

(7) The regulator may only give a notice under subclause (4) within 30 days of receiving the forecasts and estimates under subclause (1).

(8) Information required under subclause (1) may be in the form of certified annual financial statements.

(9) If information is provided in the form of certified annual financial statements, the financial statements must provide a true and fair statement of the financial and operating performance for the reporting period and be in a form and be provided by the date determined by the regulator.

- (10) Certified annual financial statements submitted under subclause (1) may be used by the regulator –
- (a) to monitor the compliance of the network provider with the revenue cap;
 - (b) to assess the allocation of costs between services that are subject to regulation under the revenue cap and services or activities that are not and to identify any cross-subsidy between these different types of services or activities; and
 - (c) to collate data regarding the financial, economic and operational performance of the network provider and to be used as input to the regulator's decision making regarding the setting of revenue caps.

Chapter 6 – Network revenue or price caps

66. Role of regulator

(1) The regulator is responsible for determining the revenue or price cap caps to apply to the network provider with regard to a network covered by this Code at the time.

(2) Revenue caps are to be determined by the regulator for each financial year during the first regulatory control period in accordance with the principles set out in this Chapter.

(3) The revenue or price caps that are to apply during the second and subsequent regulatory control periods are to be determined by the regulator in a manner that:

- (a) in the regulator's opinion, most effectively achieves the desired outcomes set out in clause 63; and
- (b) is consistent with generally accepted regulatory practice at the time.

67. Regulated network access services

(1) A revenue or price cap applies only to ~~those revenues raised each year from application of~~ tariffs and charges for regulated network access services.

(2) ~~{deleted} Except as provided for in clause 72, regulated network access services relate to –~~

- ~~(a) the transportation and delivery of electricity;~~
- ~~(b) the carrying out of works or the provision of maintenance or repairs for the purpose of carrying out transportation of electricity; and~~
- ~~(c) the provision, installation and maintenance of any meter, switchgear or other electrical plant.~~

68. Revenue or price cap principles

In setting a revenue or price cap, the regulator must take into account the revenue requirements of the network provider during the relevant financial year or years having regard to –

- (a) the demand growth that the network provider is expected to service using any appropriate measure including but not limited to –
 - (i) energy consumption by category of network users or other relevant groups of persons who consume energy;

- (ii) demand by category of network users or other relevant groups of persons who consume energy;
 - (iii) numbers of network users or other relevant groups of persons who consume energy by category of network users; and
 - (iv) length of the electricity network;
- (b) the service standards applicable to the network provider under this Code and any other standards imposed on the network provider by any regulatory regime administered by the regulator and by agreement with the relevant network users;
- (c) the potential for efficiency gains to be realised by the network provider in expected operating, maintenance and capital costs, taking into account the expected demand growth and service standards referred to in paragraphs (a) and (b);
- (d) the network provider's cost of capital applicable to the relevant network access service, having regard to the risk-adjusted rate of return required by investors in commercial enterprises facing similar business risks to those faced by the network provider in the provision of that service;
- (e) the provision of a ~~fair and reasonable~~ return on efficient capital investment undertaken by the network provider in order to maintain or extend network capacity that is commensurate with the commercial and regulator risks involved;
- (f) the right of the network provider to recover reasonable costs incurred by the network provider in connection with the operation and maintenance of the network, including those arising from but not limited to –
- (i) any Territory and Commonwealth taxes or equivalent taxes paid in connection with the operation of its business as a provider of network access services; and
 - (ii) the tariffs and charges paid to other network providers irrespective of whether these tariffs and charges are regulated under this Code;
- (g) any increase in the rate of a tax or any new tax, whether it is a tax or tax equivalent imposed by the Territory, a State or the Commonwealth that directly increases the cost of providing the access services that are directly attributable to the increase in the rate or to the new tax;
- (h) any reduction or increase in network energy losses; and
- (j) the on-going commercial viability of the network provider.

69. Revenue caps to apply in first full financial year of regulatory control period

(1) The revenue cap to apply to the network provider during the first full year of ~~a~~ the first regulatory control period (and the revenue cap to apply during any preceding part year) is to be calculated using the methodology set out in Schedule 6.

(2) The revenue cap set by the regulator is to provide a fair and reasonable risk-adjusted rate of return to the network provider on efficient investment given efficient operating and maintenance practices on the part of the network provider where –

- (a) the assets making up the investment are to be identified and valued in accordance with Schedule 7; and

(b) the fair and reasonable rate of return is to be established by the regulator in accordance with Schedule 8, and is to be consistent with the method of valuation of new assets and revaluation, if any, of existing assets and consistent with achievement of a commercial return on efficient investment.

(3) The fair and reasonable rate of return is to be determined by the regulator at least 90 days before the commencement of the first full financial year in ~~each~~the regulatory control period.

70. Revenue or price cap adjustment between years

(1) For the second full financial year and for each following year in ~~a~~the first regulatory control period, the revenue cap to apply to the network provider is to be derived by the methodology in Schedule 9.

(2) The methodology to be used by the regulator to ~~determine~~adjust the revenue or price cap is to involve increasing the previous year's ~~revenue~~ cap in line with both –

(a) the factors which the regulator considers to be the main real-terms drivers affecting the network provider's costs (such as the growth in the quantity of electricity transported annually over the electricity network); and

(b) inflation (as measured by the rate of change in the consumer price index),

and decreasing it by an efficiency gains factor ("X factor").

(3) The use of an efficiency gains factor is to ensure that the benefits of efficiency gains are shared between end-use customers (those gains achieved up to the X factor level) and the network provider (any gains achieved in excess of the X factor).

(4) The efficiency gains factor (X factor) and any other factors required for the purposes of applying the methodology in Schedule 9 are to be determined by the regulator at least 90 days before commencement of the first financial year in which the factor will apply.

(5) The efficiency gains factor is to be established and applied by the regulator in accordance with the principles in Schedule 10.

71. Revoking or resetting revenue or price cap

The regulator may only revoke or reset a revenue or price cap with respect to a particular financial year or years if it appears to the regulator that –

(a) the ~~revenue~~ cap was set on the basis of false or materially misleading information provided to the regulator;

(b) there was a material error in the setting of the ~~revenue~~ cap; or

(c) there were extraordinary developments with respect to any one of the key factors identified in clause 68 which, in the opinion of the regulator, were outside the network provider's control.

72. Exclusions from revenue or price cap

(1) The excluded network access services, being those services for which the associated costs and revenue are excluded from the revenue or price cap, are to be determined by the regulator (when the regulator determines the network revenue caps) in a manner consistent with Clause 6(3) of the *Competition Principles Agreement*.

(2) Excluded network access services not subject to any price regulation relate to services –

- (a) the supply of which, in the assessment of the regulator, is subject to effective competition; and
- (b) the cost of which, in the assessment of the regulator, can be satisfactorily excluded from the cost base (including all asset-related costs) used for the purpose of calculating the revenue or price cap applying to regulated network access services.

(3) Excluded network access services which, in the regulator's opinion, do not lend themselves to being regulated by the price control mechanisms set out in chapters 6 and 7 of the Code relate to services –

- (a) the supply of which, in the assessment of the regulator, is not subject to effective competition; and
- (b) the cost of which, in the assessment of the regulator, cannot be satisfactorily included in the cost base (including all asset-related costs) used for the purpose of calculating the revenue or price cap applying to regulated network access services.

(4) The network provider should provide any excluded network access services of the type identified in subclause (3) to network users on fair and reasonable terms.

(5) The regulator is to determine what may constitute fair and reasonable terms for the purposes of subclause (4) if the network provider and affected network users are unable to reach agreement on such terms.

(6) If the regulator is required to determine what may constitute fair and reasonable terms under subclause (5), the regulator is to make a determination –

- (a) applying principles consistent with those set out in clause 63 and (where applicable) clauses 68 and 74 of this Code; and
- (b) observing the consultation processes applying to an arbitration under chapter 4 of this Code.

Chapter 7 – Network tariffs

73. General

(1) This Chapter regulates the individual reference tariffs to be published annually by the network provider with respect to standard network access services.

(2) Reference tariffs are –

- (a) the tariff that the network provider cannot exceed when charging for a standard network access service;
- (b) the reference point for use in establishing the tariffs that cannot be exceeded when charging for new or non-standard network access services; and
- (c) the tariffs that an arbitrator must apply in making an award in the case of an access dispute relating (wholly or partly) to the tariff that should apply to a standard network access service.

(3) The establishment of individual reference tariffs in accordance with the principles set out in this Chapter is primarily the responsibility of the network provider through a process overseen by the regulator.

(4) Where the network access services required differ in some regard to the relevant standard network access services or where the circumstances associated with the provision of standard network access services may give rise to cost savings on the part of the network provider, the tariffs to apply in those circumstances are to be matters for commercial negotiation between the network user and the network provider.

(5) The principles set out in this Chapter also provide the basis upon which the maximum tariffs to apply to new or non-standard network access services are to be approved by the regulator in the case of an access dispute where the dispute relates (wholly or partly) to the tariff to apply to those services.

74. Objectives of network pricing

(1) The reference tariffs are –

- (a) to reflect efficient costs of supply;
- (b) to involve a common approach for all network users, with the actual tariff with respect to a particular network access service only differing between users because of –
 - (i) the user's geographical and electrical location;
 - (ii) the quantities in which the relevant network access service is to be supplied or is supplied;
 - (iii) the pattern of network usage;
 - (iv) the technical characteristics or requirements of the user's load or generation;
 - (v) the nature of the plant or equipment required to provide the network access service; and
 - (vi) the periods for which the network access service is expected to be supplied;
- (c) to be transparent and published in order to provide pricing signals to network users;
- (d) to promote price stability; and
- (e) to reflect a balancing of the quest for detail against the administrative costs of doing so which would be passed through to end-use customers.

(2) In the event that the regulator considers there to be a conflict between the requirements set out in subclause (1) and the requirements set out in clause 63, the requirements in clause 63 are to take precedence.

75. Structure of regulated network prices

(1) The network provider is to be responsible for establishing the pricing structure that best gives effect to the principles in clause 74.

(2) In determining the pricing structure, the network provider may distinguish tariffs and charges for the following categories of standard network access services –

- (a) entry services that include the asset-related costs and services provided to serve a generator user at its connection point;
- (b) exit services that include the asset-related costs and services provided to serve a load user at its connection point;
- (c) common services that include the asset-related costs and services that ensure the integrity of the network and benefit all network users and cannot be allocated on the basis of voltage levels or location; and
- (d) use of network services that include the network shared by generator users and load users, but exclude entry services, exit services and common services.

(3) Tariffs and charges may relate to specific connection points, and may involve a combination of fixed and variable amounts and may be related to one or more of the following elements –

- (a) demand levels (maximum kW or kVA per period);
- (b) energy quantities involved (kWh or kVAh per period); and
- (c) time of use.

(4) If quantities are used in determining tariffs and charges, these quantities may refer to minimum, maximum or actual quantities.

(5) Prior to commencement of each regulatory control period or to the network provider's coverage by this Code, the network provider must provide the regulator with a draft statement setting out details of principles and methods to be used for defining the individual standard network access services to be supplied by the network provider and for establishing the reference tariffs to apply to those services.

(6) The regulator must approve the statement for use by the network provider unless, in the opinion of the regulator, the statement is not consistent with the principles in clause 74.

76. {deleted}

77. Publication of network tariffs

(1) At least 30 days before the start of each financial year, the network provider must publish a pricing schedule.

(2) The pricing schedule must specify the reference tariffs to apply during the relevant period to standard network access services with regard to the network provider's network and, where appropriate, distinguish between –

- (a) voltage level;
- (b) load class; and/or
- (c) pricing zone,

to apply to load users and generator users.

(3) {deleted}

(4) The pricing schedule need not include the charges the network provider expects to levy on those services excluded from price regulation under clause 72.

78. Role of regulator

(1) At least 60 days prior to the start of each financial year, the network provider must provide to the regulator a statement setting out its proposed reference tariffs for the standard network access services it will be supplying that will apply in the relevant period with respect to a network.

(2) The statement must detail how the tariffs and charges have been calculated by application of the principles in this Chapter.

(3) The regulator must approve the tariffs and charges, or individual tariffs and charges, unless in the opinion of the regulator the tariffs and charges would result in the network provider not complying with the principles laid down in this Chapter or is inconsistent with requirements elsewhere in this Code.

(4) If the regulator has not notified the network provider within 30 days of receiving the statement under subclause (1) that the regulator disapproves of the tariffs and charges, the regulator is to be taken to have approved the tariffs and charges.

(5) If the regulator notifies the network provider that the regulator has not approved a tariff or charge with respect to the initial year of operation of this Code, the tariff or charge will be set at a level determined by the regulator until the regulator approves a tariff or charge submitted by the network provider.

(6) If, in any of the financial years following the initial year, the regulator notifies the network provider that the regulator has not approved a proposed tariff or charge, the tariff or charge applying to that service in the immediately preceding year (or any other tariff or charge that the regulator determines) will apply until the regulator approves the tariff or charge.

(7) Before the regulator approves the reference tariffs, the pricing schedule to be published by the network provider must incorporate any modifications that the regulator directs.

SCHEDULE 6

DETERMINING NETWORK PROVIDER'S ANNUAL REVENUE CAP

1. Introduction

(1) This Schedule outlines the broad methodology to be used by the regulator to determine the revenue cap to apply to the network provider with respect to the first full financial year (and the cap applying in any preceding part financial year) in the first regulatory control period. The revenue cap in subsequent financial years within the first regulatory control period is to be determined in accordance with Schedule 9.

(1A) The methodology for determining revenue or price caps in the second and subsequent regulatory control periods is to be determined by the regulator, taking into account measurement and definitional conventions generally accepted in a manner that most effectively achieves the outcomes in clause 63 and is consistent with generally accepted regulatory practice at the time.

(2) Each revenue or price cap determined by the regulator is to apply only to those revenues raised each year from application of prices-tariffs and charges for regulated network access services as defined by the Code.

...

SCHEDULE 7

IDENTIFYING AND MEASURING THE NETWORK ASSET BASE

...

6. Valuing network assets for second and subsequent regulatory control periods

(1) Subsequent revaluation of assets brought into service after 1 July 1999 and subsequent valuation of existing assets generally in service on 1 July 1999 (for use during the second or subsequent regulatory control periods, where the revaluations are to be used for regulatory purposes) are to be undertaken on a basis to be approved by the regulator.

(2) In approving the basis of asset valuation to be used, the regulator must have regard to –

- (a) the agreement of the Council of Australian Governments of 19 August 1994 that deprival value should be the preferred approach to valuing network assets; ~~and~~
- (b) any subsequent decisions of the Council of Australian Governments regarding the valuation of public sector assets and
- (c) generally accepted regulatory practice at the time.

SCHEDULE 8

ESTABLISHING NETWORK PROVIDER'S WEIGHTED AVERAGE COST OF CAPITAL (WACC)

1. Introduction

(1) The WACC to be used during the first regulatory control period is to be measured in accordance with this Schedule.

(2) The methodology for determining ~~the any~~ WACC for use in the second and subsequent regulatory control periods is to be determined by the regulator, in a manner that most effectively achieves the outcomes in clause 63 and is consistent with generally accepted regulatory practice taking into account measurement and definitional conventions generally accepted at the time.

...

SCHEDULE 9

NETWORK REVENUE CAPS FOR SUBSEQUENT FINANCIAL YEARS

(1) The revenue caps for the second and subsequent full financial years of the first regulatory control period are to be determined prior to the start of each of these financial years in accordance with this Schedule.

(1A) The methodology for determining revenue or price caps for the second and subsequent full financial years in the second and subsequent regulatory control periods is to be determined by the regulator in a manner that most effectively achieves the outcomes in clause 63 and is consistent with generally accepted regulatory practice, taking into account measurement and definitional conventions generally accepted at the time.

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SCHEDULE 10

DETERMINING EFFICIENCY GAINS FACTOR (X FACTOR)

1. Introduction

(1) Under the Code, the revenue or price caps set for the network provider is increased each year in line with inflation (as measured by CPI) and certain cost drivers but decreased by an efficiency driver (the "X factor") determined at the commencement of each regulatory control period by the regulator.

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2. Determining appropriate X factor

(1) For the first regulatory control period, the value of the X factor is to be determined by the regulator in accordance with subparagraphs (2), (3), (4) and (5) so that, if efficiency benchmarks are achieved, the network provider would achieve over time the allowable rate of return as defined in Schedules 6 and 8.

(1A) The methodology for determining the value of X to apply in the second and subsequent regulatory control periods is to be determined by the regulator in a manner that most effectively achieves the outcomes in paragraph (1) above and paragraph (3) below and is consistent with generally accepted regulatory practice at the time.

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