FINAL DETERMINATION

NETWORKS PRICING: 2009 REGULATORY RESET

MARCH 2009

Level 9, 38 Cavenagh Street Darwin NT 0800

GPO Box 915, Darwin NT 0801

utilities.commission@nt.gov.au

www.utilicom.nt.gov.au

Any inquiries regarding the 2009 Reset 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	

Table of Contents

CHAPTER

1

INTRODUCTION

Review process

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

1.2 Part 3 of the NT Code specifies the price regulation framework to be observed by the Commission (as the regulator) and by the network service provider[2] when setting the prices to be paid by network users. The Commission has been undertaking network price regulation under these provisions of the NT Code since 1 April 2000.

1.3 The network service provider in all regulated networks in the Northern Territory is the networks business division of the Power and Water Corporation ("Power and Water").

1.4 The current regulatory period – the second regulatory period – began on 1 July 2004 and ends on 30 June 2009. A regulatory period is defined in clause 3 of the NT Code as the period between major price reviews (or 'resets') during which time the price control mechanism used in setting network prices is held constant.

1.5 The third regulatory period is the five-year period commencing 1 July 2009. In the lead-up to the commencement of the third regulatory period, the NT Code requires the Commission as regulator – in consultation with interested parties – to review the price control mechanism used in the second regulatory period, with a view to modifying the price control mechanism as appropriate. The Commission is referring to the process of establishing the price control mechanism to apply from 1 July 2009 as the "2009 Reset".

1.6 The 2009 Reset was initiated by an **Issues Paper** published in October 2007.

1.7 Following consideration of submissions received in response to the Issues Paper and in light of its own further analysis, the Commission published a draft decision on the price control mechanism and related methodology issues in March 2008 ("**Draft Methodology Decision**"). The price control mechanism involves the practical and technical detail for the administration of network price regulation over which the Commission as regulator – in consultation with stakeholders – has a degree of discretion.

1.8 Following consideration of submissions received in response to the Draft Methodology Decision and in light of its own further analysis, the Commission published its final decision on the price control mechanism and related methodology issues in May 2008 ("**Final Methodology Decision**").

---

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

[2] The NT Code uses the term "network provider". References throughout this Paper to network service provider should be read as referring to the network provider, as defined in the Code.

1.9 The Final Methodology Decision represented the Commission's determination on a number of fundamental aspects of the regulatory arrangements to apply during the third regulatory period, including:

- the form of price control;
- the basis of a single-year 'cost of service' (or Po) adjustment to be applied at the end of the second regulatory period; and
- the method for determining the value of X in the CPI minus X price path.

1.10 As required by the Final Methodology Decision, Power and Water submitted a **Services Classification Proposal** on 30 June 2008. In July 2008, the Commission issued an interim approval of an amended version of Power and Water's proposed network services classification.

1.11 As required by the Final Methodology Decision, Power and Water submitted an **Initial Regulatory Proposal** to the Commission for the third regulatory period covering all of Power and Water's regulated networks on 22 August 2008.

1.12 Following consideration of the Initial Regulatory Proposal, the Commission issued an **Initial Draft Determination** on 3 October 2008.

1.13 Following consideration of issues raised in submissions on the Initial Draft Determination, the Commission released its **Draft Determination** on 28 November 2008, in conjunction with recommendations from the Commission's advisers and a Po adjustment spreadsheet model. The Draft Determination required certain changes to the regulatory proposal prior to the Commission approving any 'revised regulatory proposal'.

1.14 As required by the Draft Determination, Power and Water submitted a **Revised Regulatory Proposal** on 30 January 2009.

Purpose and contents of this Report

1.15 This Report presents the Commission's Final Determination based on whether or not it approves Power and Water's revised regulatory proposal and, if not, the necessary determinations of the regulatory arrangements to apply during the third regulatory period. This Final Determination reflects the Commission's consideration of Power and Water's revised regulatory proposal and issues raised in submissions on the Draft Determination.

1.16 Chapter 2 contains the Commission's full determination regarding network pricing to apply during the third regulatory period. The Commission's reasons for the constituent decisions are developed in the following chapters.

1.17 Chapter 3 contains a summary of the pricing outcomes of the 2009 Reset and outlines the main reasoning underlying the Commission's decisions.

1.18 Chapter 4 contains the Commission's statement of reasons for its decisions in relation to issues which are subject to the Commission's determination under the Final Methodology Decision rather than being left for resolution under the propose/respond framework. These issues are: the initial regulatory asset value, the allowed rate of return on capital, the value of the X factor in the CPI-X price path and certain framework aspects of the calculation of the Po adjustment factor.

1.19 Chapter 5 contains the Commission's statement of reasons in relation to the Po adjustment factor component of Power and Water's revised regulatory proposal.

1.20 Chapter 6 contains the Commission's statement of reasons in relation to all other matters raised in Power and Water's revised regulatory proposal.

CHAPTER

2

FINAL DETERMINATION

Introduction

2.1 In accordance with clause 66(1) of the Electricity Networks (Third Party Access) Code ("the NT Code"), the Commission has made its determination regarding the prices to be charged for access to prescribed electricity networks operated by the Power and Water Corporation ("Power and Water") during the five-year period commencing 1 July 2009 ("third regulatory period").[3] The determination is formally presented in this chapter. The Commission's statement of reasons is provided in following chapters.

2.2 This determination is comprised of a number of constituent decisions. These constituent decisions are made in accordance with either specific provisions of the NT Code or under certain **general powers** granted to the Commission. The Commission derives these general powers from the legislation it administers. Notably, under clause 66(3)(a) of the NT Code, the Commission is required to determine the network price control arrangements in a manner that, among other things, in the Commission's opinion, most effectively achieves the desired outcomes set out in clause 63 of the NT Code. Clause 63(g) of the NT Code provides that network price regulation must be administered by the Commission to achieve, among other things, those outcomes that the Commission determines are consistent with the underlying principles set out in clause 2 of the NT Code, which in turn are based on clause 6 of the Competition Principles Agreement. This "general powers" provision is reinforced by section 6(3) of the *Utilities Commission Act* and section 10(2) of the *Electricity Networks (Third Party Access) Act* which both authorise the Commission to do "…all things that are necessary or convenient to be done for or in connection with or incidental to the performance of its functions".

2.3 Except as explicitly modified by this Determination, the Commission has decided in accordance with its general powers that the regulatory methods, procedures and numerical values used for price control purposes during the five-year period commencing 1 July 2004 are to continue to apply during the third regulatory period.

Network services classification

2.4 In accordance with clause 72 of the NT Code, the Commission approves the classification of network services for use during the third regulatory period as set out in Table A-1 of Appendix A.

[3] The resultant access prices are wholesale prices. Under Government policy, such access prices are only passed through to consumers of electricity who have qualified as contestable customers and then only in accordance with negotiated contractual arrangements.

Price control mechanism for standard control services

2.5 In accordance with clause 66(1) of the NT Code, the Commission has decided to retain the **price cap** form of price control for standard control services.

2.6 In accordance with clause 66(1) of the NT Code, the Commission has decided to maintain price control via a **'tariff basket'** representing the weighted average of each year's network prices and involving the use of two years' lagged quantity weights.

2.7 In accordance with clause 66(3) of the NT Code, the Commission has decided to subject Power and Water's network costs at the end of the second regulatory period to a single-year 'cost of service' building block assessment to determine whether a **Po adjustment** is warranted in order that the weighted average of network access tariffs to apply at the commencement of the third regulatory period is sufficient to recover the efficient costs of supply of regulated network access services.

2.8 In accordance with clause 2(1A) of Schedule 10 of the NT Code, the Commission has decided to base the **X factor**, in the CPI-X price path to apply during the third regulatory period, not on a forward-looking, multi-year 'cost of service' building block approach but on externally-benchmarked expected efficiency improvements derived by applying the total factor productivity (TFP) approach.

Escalation arrangements for standard control services

2.9 In accordance with clause 62(1)(a) of the NT Code, the Commission has decided that, during the third regulatory period, Power and Water must annually develop network tariff schedules for standard control services that conform with the following constraint on weighted average tariffs (denoted as P):

$$P_t \leq [\, P_{t-1} * (CPI_{t-1} / CPI_{t-2}) * (1 - X)] \quad \text{... (1)}$$

where:

the t-based subscripts denote a particular financial year, with t denoting the forthcoming year, t-1 the current year and t-2 the previous year;

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

$$X = X_1 + X_2 - X_3 \quad \text{... (2)}$$

$$= -0.85\%$$

where

X_1 = 0%, being the factor determined by the Commission to reflect the difference between the TFP growth for the electricity distribution industry in Australia and that for the economy as a whole;

X_2 = 0.25%, being the factor determined by the Commission to reflect the difference between the best observed operating expenditure partial productivity level in the electricity distribution industry in Australia and Power and Water's operating expenditure partial productivity level; and

X_3 = 1.1%, being the factor determined by the Commission to reflect the latest observed difference between the input price growth for Power and Water and that for the economy as whole.

2.10 In applying equation (1), the Commission has decided that the CPI_{t-1} term is to continue to be measured by reference to the most recently published four quarter average index (for all capital cities) at the time. The CPI_{t-2} term in equation (1) involves the published four quarter average index value in the corresponding period in the previous year.

2.11 When determining the X value to apply for the purposes of this Determination, the Commission has decided not to take account of increased capital and maintenance spending by Power and Water as a result of Government decisions responding to the findings of the Davies Report regarding the Casuarina zone substation outages.[4] Instead, the Commission will reset the price cap during the third regulatory period if – upon application by Power and Water and following a public review by the Commission – any such spending increases satisfy the requirements of clause 71(c) of the NT Code. Such a reset would require the Commission to be satisfied that the spending increases were in the nature of "…extraordinary developments with respect to any one of the key factors identified in clause 68 [of the Code] which, in the opinion of the regulator [the Commission], were outside the network provider's control".

Measuring the weighted average tariff index for standard control services

2.12 In accordance with clause 62(1)(a) of the NT Code, the Commission has decided that, during the third regulatory period, Power and Water is to continue to calculate the index representing the weighted average of individual network access tariffs for standard control services for each forthcoming year "t", as follows:

$$P_t = P_{t-1} * [\Sigma_{i=1...n}[p^i_t * q^i_{t-2}] / \Sigma_{i=1...n}[p^i_{t-1} * q^i_{t-2}]] \quad \text{... (3)}$$

where:

P_{t-1} = the index value, set a year earlier, of the weighted average of individual network access tariffs approved for the current year;

p^i = the proposed or approved price (or price component) for an individual network access tariff item as the case may be; and

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

and:

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

the "Σ" symbol denotes the summation of all relevant values across all individual network access tariff items, or components of such items.

Base period adjustment for standard control services

2.13 In accordance with clause 62(1)(a) of the NT Code, the Commission has decided that, where the forthcoming year is 2010/11 or any subsequent year of the third regulatory period, P_{t-1} in equations (1) and (3) are the index value, set a year earlier, of the weighted average of individual network access tariffs for standard control services approved for the current year, calculated as follows:

$$P_{t-1} = P_{t-2} * [\Sigma_{i=1...n}[p^i_{t-1} * q^i_{t-3}] / \Sigma_{i=1...n}[p^i_{t-2} * q^i_{t-3}]] \quad \text{... (4)}$$

2.14 Where the forthcoming year is 2009/10, however, the Commission has decided that a *revised* weighted average of network access tariffs for the current year (2008/09 in that case) ($P"_{08/09}$) is to be calculated as follows:

[4] *Independent Enquiry into Casuarina Substation Events and Substation Maintenance Across Darwin: Final Report*, Chairman: Mervyn Davies, February 2009

$P"_{08/09} = P_{08/09} * (1 + Po)$ … **(5)**

where:

$P_{08/09}$ = 94.329, being the weighted average of approved individual network access tariffs applying in 2008/09 (based on the second regulatory period determination) expressed in index number form where the weighted average of approved individual network access tariffs applying in 2000/01 had an index value of 100; and

Po = the Po adjustment factor determined in accordance with paras 2.15 and 2.16 below, being a factor which indicates the extent to which the weighted average of network access tariffs applying in the second regulatory period requires adjustment at the end of that period in order to form an appropriate basis for network access tariffs in the third regulatory period.

2.15 In accordance with clause 66(3) of the NT Code, the Commission has decided that the **Po adjustment factor** to apply to the tariff basket in 2008/09 (the final year of the second regulatory period) is to be calculated as follows:

$Po = (R^* - R)/R$ … **(6)**

where:

R* is the estimated total efficient cost of Power and Water supplying standard control services in 2008/09 (in $ millions); and

R is the estimated total revenue derived by Power and Water from the existing prices applying to standard control services in 2008/09 (in $ millions).

2.16 In accordance with clause 66(3) of the NT Code, the Commission has decided that the **estimated total efficient cost** of Power and Water supplying standard control services in 2008/09 (R*) is to be calculated as follows:

Return on opening capital

plus Return on new capital

plus Return of capital (nominal depreciation)

less Holding gains included in nominal depreciation that are already included in the 'return on opening capital' (as measured by the indexation of the year's opening RAB value)

plus Return of efficient/prudent operating expenditure.

2.17 In accordance with clause 66(3) of the NT Code, the Commission has decided that the return on opening capital in 2008/09 is to be calculated as follows:

RAB * WACC … **(7)**

where:

RAB = the opening value of the regulatory asset base in the 2008/09 year; and

WACC = the nominal pre-tax weighted average cost of capital as at the commencement of the 2008/09 year.

2.18 In accordance with clause 66(3) of the NT Code, the Commission has decided that the return on new capital in 2008/09 is to be calculated as follows:

$[Capex - Depn"] * ((1+ WACC)^{\wedge ½} - 1)$ … **(8)**

where:

Capex = net capital expenditure in 2008/09;

Depn" = any annual depreciation during 2008/09 on assets acquired in that year, and

WACC is as defined in para 2.17.

Po adjustment: constituent decisions

2.19 The Commission is not satisfied that the Revised Regulatory Proposal ("RRP") as submitted by Power and Water with regard to the Po adjustment factor meets the requirements established in the Final Methodology Decision, for the reasons set out in chapters 4 and 5 of this report. In particular, certain elements of the RRP are not approved on the grounds that they do not meet the requirements of the NT Code or the NT Code's pricing principles.

2.20 In accordance with clause 6 of Schedule 7 of the NT Code, the Commission confirms its earlier decision that the regulatory value of Power and Water's regulated network assets at the commencement of the 2008/09 year for use when calculating the Po adjustment factor is to be based on the regulatory asset base ("RAB") value of $350 million (excluding gifted assets) as at 1 July 2002 (in July 2002 dollars) as determined by the 2005 Off-ramp Decision ("**initial RAB value**").[5]

2.21 In accordance with clause 6 of Schedule 7 of the NT Code, the Commission approves, for use in the RAB roll forward, the following series of actual **net capital expenditure** ("net capex") on regulated network assets over the second regulatory period to 2007/08 as submitted by Power and Water in its RRP:

Annual Net Capital Expenditure[(a)]
Second Regulatory Period

($'000)	2004/05	2005/06	2006/07	2007/08
Net capex	11,499	22,385	28,351	44,889

(a) After the deduction of any asset disposals or (included) gifted assets during the year.

2.22 In accordance with clause 66(3) of the NT Code, the Commission determines the series of annual **nominal-terms straight-line depreciation** over the second regulatory period to 2007/08 to be as follows:

Nominal Depreciation
Second Regulatory Period

($'000)	2004/05	2005/06	2006/07	2007/08
Depreciation	16,281	17,199	17,153	13,868

2.23 In accordance with clause 6 of Schedule 7 of the NT Code, the Commission determines the **opening RAB value** for 2008/09 (and the associated series for each of the preceding years in the second regulatory period) to be as follows:

Opening RAB Values
Second Regulatory Period

($'000)	2004/05	2005/06	2006/07	2007/08	2008/09
Opening RAB	371,261	375,537	392,734	415,391	460,518

[5] Utilities Commission, *Networks Pricing: Asset Valuation Off-Ramp Final Decision Statement of Reasons*, April 2005.

2.24 In accordance with clause 1(2) of Schedule 8 of the NT Code, the Commission has decided to use a **nominal pre-tax weighted average cost of capital** ("WACC") calculated in accordance with the following formula:

$$WACC = k_e * \left(\frac{1}{(1-T*(1-g))}\right) * \left(\frac{E}{V}\right) + k_d \left(\frac{D}{V}\right) \quad \text{... (10)}$$

where:

k_e is the return on equity (determined using the Capital Asset Pricing Model) and is calculated as:

$r_f + \beta_e * MRP$

where:

r_f is the nominal risk free rate for the regulatory period;

β_e is the equity beta; and

MRP is the market risk premium;

k_d is the return on debt and is calculated as:

$r_f + DRP$

where:

DRP is the debt risk premium for the regulatory period;

$\left(\frac{E}{V}\right)$ is the value of equity as a proportion of the value of equity and debt, which is $1 - \left(\frac{D}{V}\right)$;

$\left(\frac{D}{V}\right)$ is the value of debt as a proportion of the value of equity and debt;

T is the corporate tax rate; and

g is the utilisation of imputation (franking) credits.

2.25 In accordance with clause 66(3) of the NT Code, the Commission has decided that the WACC for the purposes of calculating the Po adjustment factor applying to the 2008/09 year is to be calculated based on average parameter values during the 2008/09 year.[6]

2.26 In accordance with clause 1(2) of Schedule 8 of the NT Code, the Commission has decided that the average WACC applying during the 2008/09 year is to be calculated using the formulation in para 2.24 and the values specified in the following Table (applied to two decimal places). For those parameters classified by the Commission in the following Table as 'set parameters', the determined values are as proposed by the AER during 2008/09 for such purposes. For those parameters classified by the Commission in the following Table as 'market parameters', the determined values are the simple average of the values (i) as measured on 1 July 2008, (ii) as reported by the AER in its NSW and ACT draft determinations in November 2008, and (iii) as observed by the Commission in mid-March 2009.

[6] This decision represents the main variation from the Draft Determination. As explained further in Box 1 in chapter 3 and in the discussion on the rate of return on capital in chapter 4, the Commission decided to base the WACC on 2008/09 rather than 2009/10 parameter values because (i) the WACC is being applied for the purposes of calculating costs in 2008/09 and (ii) in view of the uncertainty surrounding 2009/10 WACC parameters given the volatility currently evident in world financial markets.

WACC Parameters

Set parameters	**value**
Market risk premium (MRP)	6.00%
Utilisation of imputation (franking) credits (g)	0.65
Proportion of debt funding (D/V)	0.60
Equity beta (βe)	0.80
Corporate tax rate (T)	30.00%
Market parameters	**value**
Expected inflation rate (f)	2.55%
Nominal risk free rate (Rf)	5.14%
Debt risk premium (DRP)	3.37%

2.27 Based upon the above parameter values, the Commission determines the WACC, to be used for the purposes of calculating the Po adjustment factor, to be 9.55%.

2.28 In accordance with clause 6 of Schedule 7 of the NT Code, the Commission approves the estimate of **net capital expenditure in 2008/09** as submitted by Power and Water in its RRP of $56.782 million.

2.29 In accordance with clause 66(3) of the NT Code, the Commission determines the estimate of annual **nominal-terms straight-line depreciation charge in 2008/09** to be $15.579 million. Of this amount, the Commission determines the estimate of annual **depreciation during 2008/09 on assets acquired in that year** to be $0.625 million.

2.30 In accordance with clause 66(3) of the NT Code, the Commission has decided that the **annual holding gains in 2008/09** included in both nominal depreciation and the 'return on opening capital' (as measured by the indexation of the year's opening RAB value) is to be calculated as the opening RAB value ($460.518 million) multiplied by the annual inflation rate expected in 2008/09 as at the commencement of that year. For this purpose, the Commission determines the **annual inflation rate expected in 2008/09** as at the commencement of that year (CPI_0) to be 3.75%, being the RBA's current forecast as at 1 July 2008 of the CPI inflation rate for the June quarter 2009 compared with June 2008.

2.31 In accordance with clause 66(3) of the NT Code, the Commission determines the estimate of **actual operating expenditure** ("opex") **in 2008/09** (and the associated second regulatory period actual opex series) to be follows:

Actual Opex
Second Regulatory Period

($'000)	2004/05	2005/06	2006/07	2007/08	2008/09
Actual opex	41,710	43,215	48,756	56,050	54,850

2.32 In accordance with clause 66(3) of the NT Code, the Commission determines the **opex efficiency adjustment factor**, in order to arrive at the prudent and efficient level of the 'operating expenditure' component of the building blocks calculation for 2008/09, to be 16.9% of actual opex. The Commission has determined that the resultant estimate of prudent and efficient opex for 2008/09 is $45.580 million (=54.850*16.9%).

2.33 In accordance with clause 66(3) of the NT Code, the Commission approves the following estimate of **actual revenue** in 2008/09 as submitted by Power and Water in its RRP (and the associated second regulatory period actual network revenue series):

Actual Revenue[(a)]
Second Regulatory Period

($'000)	2004/05	2005/06	2006/07	2007/08	2008/09
Actual revenue	79,598	72,406	74,127	78,423	79,994

(a) Includes certain (allowable) non-sales revenue as well as all sales revenue

2.34 Based on the formulation decided in paras 2.15 to 2.18 and the various values determined in paras 2.20 to 2.33, the Commission determines the Po adjustment factor to apply in conjunction with equation (5) above to be 13.1%. [7]

Individual network access tariffs for standard control services

2.35 In accordance with clause 75(6) of the NT Code, the Commission approves the statement setting out the **pricing principles and methods** that Power and Water proposes to apply when establishing the reference tariffs to apply to individual network access tariffs.

2.36 In accordance with clause 75(6) of the NT Code, the Commission approves the **framework for negotiating discounted network tariffs** (included in the Pricing Principles and Methods Statement) as proposed by Power and Water, which replaces the Commission's discounting framework.

2.37 In accordance with clause 81(3) of the NT Code, the Commission approves the statement setting out the **capital contributions policy** to be applied during the third regulatory period as proposed by Power and Water.

2.38 In accordance with clause 78(3) of the NT Code, the Commission will approve the **annual schedule of individual network access tariffs** submitted by Power and Water each year within the third regulatory period, unless:

- the weighted average of tariffs included in the schedule, expressed in index number form, does not comply with the constraint in equation (1); or
- the Commission considers the proposed change in the structure of network access tariffs to be inconsistent with the approved Pricing Principles and Methods Statement; or
- the resultant impact on the weighted average tariff *for each individual end-use customer* does not comply with a CPI+Y side constraint, where Y is:
  - in relation to 2009/10: Po+2%; and
  - in relation to each of the four years after 2009/10: 2%.

2.39 In accordance with its general powers, the Commission requires Power and Water to maintain the following information on a networks page on the Power and Water website:

- the approved Network Tariff Schedules for the relevant year; and
- a statement of expected network price trends (to be updated for each year) giving an indication of how Power and Water expects network prices to change over the regulatory period and the reasons for the expected changes.

[7] This compares with the Po adjustment factor of 25.5% in the Draft Determination. Besides the decision to base the WACC on 2008/09 rather than 2009/10 parameter values, the difference is also due to the updating of some input data, in particular: (i) the updating of the CPI forecast for actuals in the Po adjustment model (refer to the discussion on the corrections and revisions to the Po adjustment model in chapter 4); and (ii) incorporating Power and Water's revised 2008/09 capex and opex estimates. This also compares with the Po adjustment factor of about 50% proposed by Power and Water in its RRP.

Other elements of price control

2.40 In accordance with clause 66(3) of the NT Code, the Commission approves the pricing rule element of **the control mechanism for 'fee-based services'** types of alternative control services as proposed by Power and Water in its RRP.

2.41 In accordance with clause 66(3) of the NT Code, the Commission approves the pricing rule element of **the control mechanism for 'quoted services'** types of alternative control services as proposed by Power and Water in its RRP.

2.42 In accordance with its general powers, the Commission approves the proposal that there be no **negotiating framework** applying during the third regulatory period.

2.43 In accordance with its general powers, and consistent with clause 71(c) of the NT Code, the Commission will only consider **cost pass through** applications during the third regulatory period if they are the consequence of:

- change in tax or insurance events; or
- *force majeure* events; or
- regulatory compliance events; or
- service standard events; or
- such other events that satisfy the following requirements: (i) the occurrence was not anticipated at the time of the preceding reset or, while allowable, was explicitly excluded by the Commission from affecting the outcome of that reset on the grounds that the likely impact on Power and Water was unknown or too difficult to quantify at the time, and (ii) the occurrence is not a result of actions of Power and Water's board or management or of decisions of the Government in its capacity as owner or shareholder or guarantor of Power and Water.

The Commission will only consider a cost pass through application based on the above types of events if it at least satisfies the materiality threshold of 1% of the annual revenue from standard control services in the financial year in which the event occurs.

2.44 In accordance with its general powers, the Commission approves the proposal that there be no **service target performance incentive scheme** during the third regulatory period, although a 'paper trial' will be instituted instead by the Commission of a service incentive (s-factor) scheme covering the third regulatory period.

2.45 In accordance with its general powers, the Commission approves the proposal that there be no **demand management scheme** applying during the third regulatory period.

CHAPTER

3

REGULATORY OUTCOME

Introduction

3.1 This chapter summarises the outcomes of the 2009 Reset and outlines the Commission's main reasoning.

Pricing implications

3.2 The Commission's Final Determination approves significantly higher (wholesale) prices for users of regulated electricity networks in the Northern Territory from 1 July 2009. Over the next five years, the average annual *increase* in network prices allowed for in this Determination is 3.4% in real terms (i.e., in addition to general inflation). This contrasts with average annual *decreases* in the order of 3% experienced over the last nine years.

3.3 This reversal reflects two sets of differences. First, the price path put in place by the Commission allows an annual 0.85% real-terms *increase* over the next five years, compared with the average annual real-terms *decrease* of 2% during the second regulatory period and around 3% during the first regulatory period. This is the result of a reassessment by the Commission of how an efficient network operator's unit costs can be expected to move as a result of productivity improvements generally expected in the electricity distribution industry in Australia, as well as recognition by the Commission of the role played by differences between input price growth in the electricity distribution industry in Australia and that for the economy as whole.

3.4 Secondly, the Commission has made a correction – impacting on the first year (2009/10) of the third regulatory period – for under-funding of Power and Water's costs resulting from information available at the time of the 2004 Reset turning out to be incorrect. This correction adds around $10 million (or 13.1%) to Power and Water's allowed revenues. This accounts for the remaining 2½ percentage points of the 3.4% annual real-terms increase being allowed on average over the next five years. Of this correction, about 20% is necessary because the Commission's 2004 analysis under-estimated the extent to which the prices of inputs used by Power and Water would rise, compared to the general level of price inflation measured by the CPI, over the last five years. However, the bulk (80%) of this correction is due to a significant and unexpected increase in Power and Water's operating and capital expenditures during the second regulatory period. Forecasts of spending over the 2004-2009 period provided to the Commission by Power and Water at the time of the 2004 Reset undershot actual outcomes by around 30% for operating and maintenance expenditure and by around 70% for capital expenditure.

3.5 As explained further in Box 1, this 13.1% correction has been influenced in part by the Commission's decision to modify one aspect of its earlier Draft Determination, which had the effect of ensuring that this correction was based entirely on 2008/09 data.

Box 1: Modification made between the Draft Determination and the Final Determination

In the Final Determination, the Commission decided to calculate the Po adjustment factor using the weighted average cost of capital (WACC) evident during the 2008/09 year. This contrasts with use of the 2009/10 WACC for this purpose as proposed in the Draft Determination.

The Commission's estimate of the impact of these alternative measurements of the WACC is set out in the following Table:

	Draft Determination (based on 2009/10 WACC)[(b)]	Final Determination (based on 2008/09 WACC)
WACC[(a)]	8.4%	9.5%
Po adjustment factor	6.1%	13.1%
implied average annual real-terms price increase over the third regulatory period	2.1%	3.4%

(a) Nominal pre-tax weighted average cost of capital.
(b) Updated using set parameters and market parameters (defined in chapter 2) likely to apply in 2009/10 as observed by the Commission at mid-March 2009.

The move to the 2008/09 WACC ended up being the only change of substance adopted by the Commission in the Final Determination compared with the Draft Determination.

This change reflects two sets of reasoning by the Commission. First, further consideration of the issues by the Commission led it to conclude that calculation of the Po adjustment factor was most appropriately based on the WACC during the year in question (2008/09) rather than the WACC expected in the following year (2009/10). This difference is not material when – as has generally been the case in the past – there is little change in the WACC from one year to the next. However, a substantial departure from this 'normal' pattern has recently become evident between the 2008/09 and 2009/10 years, reflecting the impact which the global financial crisis has had (and is having) on the apparent level of the WACC. In hindsight, the Draft Determination (and the preceding Final Methodology Decision) erred in applying a 2009/10-based WACC rather than the 2008/09 WACC.

Secondly, in considering its Final Determination (and the overarching issue of the impact of the Commission's determination on Power and Water's "financial viability", discussed in further detail in paras 3.35 to 3.48 below), the Commission also recognises that continued use of a WACC based on 2009/10 parameters would most likely result in Power and Water's network financials no longer warranting an investment grade credit rating. Even if use of a 2009/10-based WACC could somehow be justified on theoretical grounds, on practical grounds the Commission acknowledges that the recent sharp fall in the estimated 2009/10 WACC value could jeopardise the financial viability of Power and Water's networks business.

3.6 Significant real-terms increases in network prices are currently an Australia-wide phenomenon. For example, the Australian Energy Regulator (AER) foreshadowed average real-terms increases in the range of 2.8% to 11.7% per annum over the next five years in its recent draft determinations for the NSW and ACT network operators. Regulators and network operators alike have failed to anticipate the cost

increases experienced by the energy sector in recent years, as fuel, construction and labour costs blew out on account of the boom conditions experienced in the minerals and energy sectors over the last decade (at least until last year). Nevertheless, the 3.4% average annual real-terms increase in NT network charges over the next five years allowed for in this Determination is towards the lower end of the range of regulated network price increases in prospect elsewhere in Australia.[8]

Areas of difference with Power and Water

3.7 The 3.4% average annual real-terms increase in network charges allowed for over the next five years is significantly below the increase sought by Power and Water. Effectively, the Commission has limited the real-terms price increase to around one-third of Power and Water's claim (which was for real-terms increases averaging around 10% per annum).

3.8 Fundamentally, there are three areas of difference between Power and Water and the Commission:

- The first relates to regulatory asset values. Power and Water claims that it will have around $675 million in capital employed in network assets on 1 July 2009, whereas the Commission recognises a lower value of around $500 million.
- The second relates to judgments about Power and Water's present level of operating efficiency. Power and Water claims it is operating efficiently, whereas the Commission assesses Power and Water's annual operating and maintenance expenditure presently to be around 17% – or around $10 million – above an immediately achievable efficient level based on benchmarking against other similar Australian network operators.[9]
- The third relates to allowances made for future cost increases. Power and Water claims its unit costs of supply are set to increase on average over the next five years by around 2.5% per annum in real terms while, on the basis of an independent analysis of productivity performance recently achieved across the network service sector, the Commission is only prepared to factor-in real-terms increases averaging 0.85% per annum.

3.9 The Commission estimates that accepting each of Power and Water's claims would add around 3¼, 1¾ and 1¾ percentage points respectively to the 3.4% average annual real-terms increase that the Commission has allowed in the Final Determination.

3.10 The Commission considers its stance on each of these issues to be consistent with its mandate and obligations under the applicable law (the NT Electricity Networks Third Party Access Code ("NT Code")), which requires the Commission:

- under clause 63 of the NT Code – to administer network price regulation in a way that achieves, in particular:
  - efficient costs of supply;
  - 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;

[8] The 3.4% average annual real-terms increase in NT network charges could move closer to the middle of the AER's range if the WACC values used in the final determinations for NSW and the ACT network operators are revised downward significantly in line with recent capital market developments.

[9] This is based on annual operating and maintenance expenditure assessed presently as being around 27% above a long-term efficient level, which is in turn reduced by an allowance of 10 percentage points for efficiency improvements deserving to be phased in over the next 10 years (see chapter 4).

- prevention of monopoly rent extraction by the network operator;
- promotion of competition in upstream and downstream markets and promotion of competition in the provision of network services where economically feasible;
- reasonable certainty and consistency over time of the outcomes of regulatory processes; and
- an acceptable balancing of the interests of the network operator, network users and the public interest;

- under clause 66(3) of the NT Code, to determine the revenue or price caps that are to apply during each regulatory period in a manner that, in the Commission's opinion, most effectively achieves the desired outcomes set out in clause 63 and is consistent with generally accepted regulatory practice at the time;
- under clause 68 of the Code – to have regard to, in particular:
  - the demand growth that the network operator is expected to service;
  - the service standards applicable to the network operator;
  - the right of the network operator to recover reasonable costs incurred by the network operator in connection with the operation and maintenance of the network; and
  - the on-going commercial viability of the network operator; and
- additionally, under clause 74 of the NT Code, to promote price stability.

Regulatory asset values

3.11 The Commission's decision values the capital employed in Power and Water's network assets on 1 July 2009 at around $500 million. Power and Water claims a higher value of around $675 million, based on an independent valuation undertaken in 2007 applying the depreciated optimised replacement cost (DORC) concept.

3.12 The Commission considered Power and Water's arguments in favour of a DORC valuation as part of the April 2005 Off-ramp Decision. The Commission stands by its reasoning underlying that Decision.

3.13 Regarding the DORC valuation, the Commission notes the following:

- The NT Code (Schedule 7) does not mandate DORC, only going as far as requiring the Commission to 'take into consideration' the deprival valuation methodology. Deprival value is the value of an asset to the owner considered in terms of the loss that would be incurred by the owner if deprived of the asset.
- The Commission has accepted the expert advice of the Allen Consulting Group that use of DORC is not necessarily 'generally accepted regulatory practice', with examples cited of regulatory values being set at values lower than estimates of DORC to reflect other concerns. Such alternative valuation methodologies are generally presented as versions of a deprival value.
- DORC is not the only methodology that might meet the requirements of Schedule 7 to the NT Code, Part 3 of the NT Code (especially clauses 63 and 2(2)), and section 6 of the *Utilities Commission Act*.
- The use of DORC could violate some of these legislative requirements in the NT context. For example, adoption of a DORC valuation method may lead to a rise in prices above levels prevailing or considered sustainable.
- The Commission has also accepted the Allen Consulting Group's advice that economic principles (i) suggest that regulated assets should not be valued at less than scrap value or more than a (correctly determined) DORC value, and (ii)

do not provide guidance as to whether a regulatory asset value should be set as scrap value or at DORC value, or at any particular value in between.

- A DORC value, being at the high end of the possible valuation range, may allow monopoly rent extraction by Power and Water's network business, were such a value to give rise to cashflows in excess of those necessary to ensure the business remains financially viable.
- A regulatory asset value at the higher end of the possible valuation range may lessen the incentive for Power and Water to pursue operating efficiencies, and use the resulting cost savings to increase its rate of return. The increased availability of cash, above that required for efficient operation and investment, may also encourage capital over-spending or a less diligent approach to meeting operating cost budgets.

3.14 The Commission's concerns over the usefulness and relevance of Power and Water's latest DORC valuation is further reinforced by the finding of the recent Davies Report, that there is an apparent disconnect between the actual service capacity/condition of some network assets and the capacity/condition assumed previously (including for the purposes of Power and Water's 2007 DORC valuation). If the concerns raised in the Davies Report are correct, and the service capacity of some assets is significantly less than previously thought, this does not seem to provide a basis for raising the value placed on those assets.

3.15 The Off-ramp Decision saw the Commission concluding that the most appropriate regulatory asset value from the plausible range is the asset value that would be sufficient (but no more) to ensure the ongoing financial viability of Power and Water's network business. This value was struck at 1 July 2002, which also was the date of Power and Water's corporatisation. All investments made in network assets since then have been recognised at cost under the Commission's approach, thereby providing appropriate incentives for future investment by Power and Water.

3.16 Based on projections of operating and capital costs used by the Commission in the Off-ramp Decision, the revenues that would be earned *after* the 13.1% up-front correction for under-funding in 2008/09 in this Determination would see the financials for Power and Water's regulated networks business at the commencement of the third regulatory period comfortably in the single-A credit rating range, with an interest cover ratio of 3.4 times, a debt payback period of 6.1 years and an internal financing ratio of 45%. These ratios compare with the projections for 2008/09 at the time of the Off-ramp Decision of 3.4 times, 7.2 years and 103% respectively.

Operating efficiency

3.17 The Commission's decision also relies importantly on the judgment that Power and Water's annual operating and maintenance expenditure presently is around 17% – or $10 million – above an immediately achievable efficient level based on benchmarking against other similar Australian network operators. Power and Water claims it already operates efficiently.

3.18 The Commission is satisfied that the top-down benchmarking approach used by its expert adviser GHD Meyrick is sufficiently robust in the circumstances. The Commission considers that, under the detailed bottom-up benchmarking approach advocated by Power and Water, a regulator faces asymmetric information problems, and these assessments rely heavily on engineering judgments and are not reproducible.

3.19 The four comparator network operators chosen by GHD Meyrick seem appropriate, in particular because:

- these network operators have relatively similar customer densities and energy densities;

- compared with Power and Water's 8.6 customers/km (of network cable), the comparators have customer densities of 3.9, 4.4, 7.4 and 12.5 customers/km; and
- Power and Water has the second highest energy density, as measured by average consumption per customer, among this group.

3.20 The GHD Meyrick approach is, if anything, conservative to the extent that:

- by taking the average performance of four comparators as the benchmark, GHD Meyrick was not pushing Power and Water to the frontier but rather taking a conservative (or prudent) averaged approach; and
- since Power and Water has both the second highest customer density and second highest energy density by comparison with the chosen (four) peer group, it should not be disadvantaged by the choice of peer group.

3.21 Consistent with the emphasis placed by the NT Code on efficient long-run costs of supply, the GHD Meyrick exercise:

- recognised that network operators have different characteristics, requirements, cost structures, cost drivers and operating environments, which is precisely why GHD Meyrick sought to identify, quantify and allow for the unique operating environment factors facing Power and Water;
- provided Power and Water with the opportunity to document how it might be different from other network businesses; and
- took full account of the quantitative operating environment effect estimates supplied by Power and Water.

Setting the price path

3.22 On the third point of difference, the Commission's decision to allow an annual real-terms increase of 0.85% over the next five years is based on an externally benchmarked, TFP (total factor productivity) approach. In contrast, Power and Water claims its unit costs are set to increase by around 2.5% per annum in real terms, based on a forward-looking cost of service (or building blocks) approach.

3.23 The Commission's reasons for preferring an externally benchmarked TFP approach over a cost of service approach are well documented.[10] Due to the increasing complexity, expense and intrusiveness of cost of service analyses, the difficulties in forecasting cost movements over a five-year period with reasonable certainty, and the continuing poor quality of Power and Water data and the limitations this places on data-based analysis, the Commission remains of the view that there is intrinsic merit in the incentive properties of a lighter-handed, externally benchmarked approach, particularly for a small and relatively less-complex network.

3.24 Virtually from the commencement of the present regulatory framework in 2000, the quality of Power and Water's financial and operating data has been a problem. The 2009 Reset has not seen any marked improvement. Consistently unreliable data is an indicator of unreliable data collection systems, and where this is the case the Commission's repeated experience has shown there is little value in subjecting the data to interrogation by independent experts, since their questions about the origin and validity of the data cannot be answered with any confidence. In the Commission's experience, when applied to Power and Water data, such firm-specific analysis, which is not inexpensive, has too often proved frustrating, and able to shed little light on the issues to hand.

[10] *2004 Regulatory Reset, Final Decision Paper: Price Regulation Methodology*, November 2003, chapter 3; and *2009 Regulatory Reset, Price Control Mechanism, Final Decision Paper*, May 2008, pp.26-34.

3.25 In these circumstances, it is the Commission's view that neither the requirements of the NT Code in regard to generally accepted regulatory practice nor the Commission's own desire for convergence with the *National Electricity Rules* constrain it to apply a prospective multi-year building blocks approach.

3.26 In setting an allowed price path, the Commission's task is to balance the interests of consumers and the service provider – to allow Power and Water to recover its 'reasonable' efficient capital and operating costs and, in so doing, to remain financially viable. Fundamentally, the question facing the Commission is whether a price path derived by reference to industry-wide total factor productivity and inflation provides a no less (statistically) unbiased estimate of the change in Power and Water's unit costs over the regulatory period than would be derived under a building blocks approach.

3.27 Whereas the cost of service approach relies on firm-specific forecasts of expenditure and demand to determine the trajectory of prices, the TFP approach makes greater use of 'known and measurable' information (i.e., measured productivity growth rather than company-specific forecasts of expenditure and demand). In fact, the TFP approach substantially reduces the Commission's discretion over how Power and Water's expenditure requirements may be expected to change over the regulatory period. Under the TFP approach, the Commission's discretion is limited to establishing the expenditure requirements implied by the initial set of prices. The change in cost over the regulatory period is determined on the basis of observed trends in productivity growth and unit input costs, and actual inflation.

3.28 As explained in Box 2 below, the Commission considers that the role played by its preference for the TFP approach over the building blocks service approach is not as great as parties to the 2009 Reset process seem to believe.

3.29 Uncertainties about Power and Water's financial forecasts have been compounded by the increase in costs resulting from the asset investigation and replacement program, and improved maintenance practices recommended by the Davies Report. Power and Water has confirmed that the forecasts made available to the Commission do not include an allowance for the costs of implementing the Davies recommendations, and that these costs will not be known in full for some months. The Commission's determination defers consideration of such increased spending, which has the potential to see further price increases kick-in in a year or two's time.

3.30 Power and Water argues that TFP should only be applied in a 'steady state'. Where large increases in future expenditure are forecast, a cost of service approach is said to be more suitable, since the increase in expenditure can be directly factored in to the allowed price path. But this overlooks the critical point that, whatever approach is adopted, the reasons for the forecast large increase in costs must first be established. And there is the related question of who – taxpayers or consumers – should bear the funding gap implied if Power and Water's unit costs of supply indeed increase by around 2.5% per annum in real terms over the next five years, compared with the Commission's analysis that only 0.85 percentage points of such increases deserve to be funded by consumers.

3.31 How the funding of any increased spending is most appropriately shared between consumers and taxpayers is not a straight forward matter. The more that increased spending can be shown to arise in order to address past deferrals of asset maintenance and replacement or renewal, the greater is the case for the Government as owner (and so taxpayers) bearing most of the associated costs. On the other hand, if any increased spending can be sheeted home to Power and Water significantly increasing investment in its network and improving network security and reliability of supply in response to a public policy decision by the Government imposing service quality enhancements on Power and Water, the greater is the case for consumers bearing most of the associated costs.

Box 2: Building blocks approach versus TFP approach

As a cross check, the Commission has estimated indicative Po and X factors that might have arisen had it applied – rather than its TFP approach – a multi-year building blocks approach (BBA) to long-run efficient (projected) levels of Power and Water's spending over the third regulatory period. After applying its efficiency and cost-sharing adjustments to Power and Water's actual (projected) spending levels over the five years of the third regulatory period, the Commission estimates the BBA outcome – compared with that under the TFP approach used in its Final Determination – to be as set out in the following Table:

	Multi-year building block (BBA) assessment [(a)]	**Final Determination (TFP approach)**
Po adjustment factor[(b)]	8.1%	13.1%
X factor[(c)]	-1.30%	-0.85%
implied average annual real-terms price increase over the third regulatory period	2.9%	3.4%

(a) Based on the 2009/10 WACC as reported in Box 1 Assessment undertaken on a pre-tax basis.
(b) Applied to year 0 (i.e., 2008/09) actual revenue, with the X factor subsequently applied to all five years of the third regulatory period.
(c) A negative sign indicates a real-terms price increase.

For reasons explained elsewhere in this report, the Commission places more faith in the Po and X factors calculated in accordance with its TFP approach, as they involve more emphasis on 'known and measurable' information – and lesser judgment by the Commission – than is of necessity the case for Po and X factors estimated under a BBA assessment. In the current circumstances, they also have the advantage of not being unduly influenced by recent capital market events which challenge some of the assumptions underlying the CAPM model which provides the basis for forward-looking estimates of the WACC.

Nevertheless, when the implied average annual real-terms price increase over the third regulatory period under the two approaches is compared (2.9% and 3.4% respectively), it is clear that the BBA versus TFP issue *per se* is a relatively minor contributing factor to the Final Determination.

Of much more significance – applicable under both a TFP approach and a building blocks approach – is the role played by the Commission's efficiency and cost-sharing adjustments.

3.32 On the Commission's estimates, around one-third of Power and Water's projected capital works program over the next five years is in the nature of remedial capital expenditure, and this is before account is taken of any upward revisions to the forecasts possible once the final response to the Davies Report is known.

3.33 If there are grounds for considering the price path to be inappropriate as Power and Water's situation becomes clearer and the Government moves to clarify its policy position, clause 71(c) of the NT Code allows any party to request a within-period reset. This clause empowers the Commission to reset the price cap during a regulatory period if it is satisfied there exist:

"…extraordinary developments with respect to any one of the key factors identified in clause 68 [of the Code] which, in the opinion of the regulator, were outside the network provider's control".

3.34 In the event there is a call for an intra-period increase in prices in response to the issues discussed above, the careful wording of this clause will require explicit judgments as to why consumers should carry the increased cost burden.

Financial viability

3.35 Taking all its decisions together, a final overarching issue for the Commission is whether the financial viability of Power and Water's regulated network business could be jeopardised – in contravention of clause 68 of the NT Code – by the Final Determination. Among other things, this clause requires the Commission to have regard to "…the on-going commercial viability of the network operator".

3.36 Power and Water has provided projections of spending over the five years of the third regulatory period in conjunction with its RRP. The Commission considers these projections to represent the 'worst case' scenario.

3.37 Table 3-1 compares the Commission's estimates of the revenue likely to arise over the next five years as a result of its Final Determination with Power and Water's actual spending plans.

Table 3-1
Commission's Assessment of Power and Water's Network Finances
Third Regulatory Period
Worst Case Scenario

all dollar values in nominal (i.e., current) dollars; $ million

	2009/10	2010/11	2011/12	2012/13	2013/14	5 yr total
Total network revenue[a]	99.9	106.0	111.7	118.2	125.2	**561.1**
less Actual O&M plus tax liability[b]	64.6	69.3	69.6	74.5	78.6	**356.6**
less Internal funding of replacement of existing assets[c]	23.4	23.9	24.5	25.1	25.7	**122.7**
equals Actual return on capital	11.9	12.8	17.6	18.6	20.9	**81.8**
less Interest payments[d]	13.0	17.9	20.9	23.7	26.2	**101.7**
equals **Actual return on government equity**[e]	-1.0	-5.1	-3.3	-5.1	-5.3	**-19.9**
Interest cover ratio (times) [f]	2.8	2.3	2.2	2.1	2.0	**2.2**
Debt payback period (years) [f]	8.1	11.0	12.5	13.9	14.9	**12.2**
Internal financing ratio [f]	24%	35%	37%	41%	35%	**34%**

(a) Estimated by the Commission using the Po and X factors contained in this Final Determination, annual (CPI) inflation over the period averaging 2.7% and annual quantity growth averaging 2.5%. Also includes an allowance for non-sales revenue of around $3 million per annum.
(b) Forecasts provided by Power and Water in conjunction with its RRP. Includes amounts considered by the Commission to be inefficient or remedial in nature.
(c) Assumes that infrastructure renewals must be internally financed as they fall due. The amount included is restricted to the current year consumers' equitable share of the replacement task.
(d) Based upon Power and Water's estimate of outstanding corporate debt assigned to its electricity network business as at 1 July 2009, rolled forward by the Commission on account of the external financing implied by the annual gap between total network revenue and Power and Water's actual (projected) spending plans.
(e) Negative implies a government contribution is required in the form of a grant or subsidy.
(f) As defined by the Commission in its 2005 Off-ramp Decision paper.

3.38 In the coming year (2009/10), the Commission estimates that its 2009 Final Determination will give rise to a total of $100 million in networks revenue to Power and Water. Under the worst case scenario, this is enough to recover all of the actual (forecast) levels – not just efficient levels – of Power and Water's operating and maintenance expenditure (O&M), tax payable, the renewal of existing network assets and all but $1 million of its interest payments. Allowed revenues do not give rise to any return on government equity. Dividends payable to the Government (and to taxpayers) as owner of Power and Water depend directly on the size of any achieved return on equity.

3.39 Under the worst case scenario, the Commission recognises that the Final Determination would see the financials for Power and Water's regulated networks business in 2009/10 move into the triple-B credit rating range, with an interest cover ratio of 2.8 times, a debt payback period of 8.1 years and an internal financing ratio of 24%. For a government-owned corporation like Power and Water, 'financial viability' is dependent entirely on continued ease of access to borrowed capital. It is therefore the Commission's assessment that retention of an investment grade credit rating (triple-B and above) even under the worst case scenario means that the financial viability of Power and Water's regulated networks business is not being put in jeopardy by the Final Determination.

3.40 Over all five years of the third regulatory period, the Commission estimates that its Final Determination will give rise to network revenues totalling $561 million. Under the worst case scenario, this is enough to recover all of the actual costs projected by Power and Water – whether efficient or not – with respect to its O&M, its tax payments, current consumers' share of the renewal of existing network assets and all but $20 million of its interest payments. The Commission acknowledges that such a $20 million shortfall would in fact need to be met by a government grant or subsidy totalling at least $20 million over the next five years. The more likely scenario is under-spending against Power and Water's current projections. Given the up to four-fold increase in annual capital spending implied by Power and Water's projections for some years during the third regulatory period compared with actual capital spending in some years of second regulatory period, the Commission places a much higher probability on under-spends than on the necessity for any equity injections.

3.41 In the Commission's assessment, the Final Determination would see the financials for Power and Water's regulated networks business under the worst case scenario remaining in the triple-B credit rating range only after account is taken of the government guarantee of Power and Water's debt, with an interest cover ratio of 2.0 times, a debt payback period of 14.9 years and an internal financing ratio of 35% by 2013/14. While the financial viability of Power and Water's regulated networks business is not being put in jeopardy by the Final Determination, the Commission concedes there could be very little margin of comfort. In fact, the Government would need to consider additional grants or subsidies rather than (as assumed in the above figuring) allowing part of the remedial spending to be financed by additional borrowings (see para. 3.44 below).

3.42 Table 3-2 identifies the sources of the Government as owner (and taxpayer) contribution to Power and Water's planned network costs over the next five years under the worst case scenario, and suggests the uses to which these funds would be directed.

3.43 The Final Determination, by not allowing the recovery from electricity consumers of all (actual) costs incurred by Power and Water under the worst case scenario, in effect would see the NT Government as owner (and so NT taxpayers) relieving NT electricity consumers from funding around $30 million – or about one-quarter – of annual spending in 2009/10. This Government contribution is the amount that would be required to fund (the Commission's estimates of both) the inefficient and remedial elements of Power and Water's networks O&M spending and the remedial element of Power and Water's networks capital expenditure program. The Commission attributes both amounts to operational decisions of Power and Water's board and management and/or to past ownership-related policy decisions by the Government.

Table 3-2
Commission's Assessment of the Government/Taxpayer Contribution
Third Regulatory Period
Worst Case Scenario

all dollar values in nominal (i.e., current) dollars; $ million

	2009/10	2010/11	2011/12	2012/13	2013/14	5 yr total
Sacrifice of return on government equity[a]	29.5	30.4	31.8	33.3	35.0	**160.1**
plus Government grant or subsidy[b]	1.0	5.1	3.3	5.1	5.3	**19.9**
equals **Government/taxpayer contribution**	30.5	35.5	35.1	38.4	40.3	**179.9**
available to fund (in lieu of consumers) the Commission's estimates of:						
Inefficient and remedial O&M[c]	16.4	19.0	16.7	18.9	20.1	**91.1**
Remedial capex[d]	49.6	21.6	15.6	8.5	17.5	**112.8**
Other[e]	-35.4	-5.0	2.9	11.0	2.7	**-23.9**
Total	30.5	35.5	35.1	38.4	40.3	**179.9**

(a) Based upon the cost of equity calculated using 2009/10 parameters.
(b) The cash contribution required to offset the negative return on equity shown in Table 3-1.
(c) Estimated by the Commission as the preceding year's O&M (including a tax liability amount) escalated in line with annual (CPI) inflation and annual quantity growth, and adjusted on account of the opex efficiency adjustment factor used by the Commission for its Final Determination (16.9%).
(d) Estimated by the Commission as Power and Water's actual (projected) capital expenditure less the sum of (i) the annual infrastructure renewals amount funded by allowed depreciation (as per Table 3-1), and (ii) a reasonable amount of annual growth capital expenditure set equal to growth in the gross replacement value of Power and Water's assets in proportion to annual quantity growth (assumed = 2.5%).
(e) Negative implies reliance also on additional borrowings to fund remedial capex.

3.44 Over all five years of the third regulatory period, the Commission's decision to depart from allowing recovery of all actual costs as projected by Power and Water – *if* Power and Water's network expenditure (both operating and capital) indeed grows as projected by Power and Water – in effect would see the NT Government as owner (and so NT taxpayers) relieving NT electricity consumers from funding around $180 million – or around one-quarter – of all annual spending under the worst case scenario. This Government contribution is the amount required to fund the Commission's estimates (under the worst case scenario) of:

- the inefficient and remedial components of Power and Water's networks O&M spending (averaging around $18 million per annum); and
- most, but not all, of the remedial element of Power and Water's networks capital expenditure program, estimated by the Commission to average around $22 million per annum – of this amount, an average of about $5 million per annum would also have to be financed by additional borrowings.

3.45 The inefficient O&M identified by the Commission is the result either of operating decisions of the board and management, or of government policies – past and present – constraining the board and management from adopting operating policies and practices available to electricity networks businesses elsewhere in Australia.

3.46 The remedial (maintenance and capital) expenditures identified by the Commission is the result either of past poor asset management practices adopted by the board and management, or of government policies – past and present – which had the effect of diverting internal sources of financing away from the maintenance or renewal of existing network assets or which effectively limited access to necessary (debt) financing.

3.47 While the Commission is prepared to allow the spending increases actually evident over the second regulatory period as amounts that consumers need to fund, it is not prepared at this time to validate the further spending increases – even before account is taken of the findings of the Davies Report – which Power and Water has foreshadowed for the third regulatory period. A reckoning will take place at the end of the third regulatory period once Power and Water's actual spend during that period is confirmed. Also, this matter could be revisited even earlier if or when the Commission considers any pass-through application by Power and Water of spending increases arising directly as a result of the implementation of Davies Report's recommendations.

3.48 The Commission considers its stance on these issues to be consistent with its mandate and obligations under the NT Code. Clause 63 requires the Commission to administer network price regulation in a way that achieves, among other things: *efficient* costs of supply; 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 an acceptable balancing of the interests of the network operator, network users and the public interest. In addition, clause 74 requires the Commission to, among other things, promote *price stability*.

CHAPTER

4

KEY PARAMETER VALUES

Introduction

4.1 This chapter addresses certain issues which are subject to the Commission's determination under the Final Methodology Decision rather than being left for resolution under the propose/respond framework. These issues are: the initial regulatory asset value, the allowed rate of return on capital, the value of the X factor in the CPI-X price path and certain framework aspects of the calculation of the Po adjustment factor.

Initial regulatory asset value

Requirements of the final methodology decision

4.2 The Final Methodology Decision required that the 2008/09 opening value of the regulatory asset base ("RAB") for use in the Po adjustment model be $350 million (excluding gifted assets) as at 1 July 2002 (in July 2002 dollars) ("the initial RAB value") rolled forward by Power and Water to 2008/09.

Views submitted by Power and Water in its IRP

4.3 In its Initial Regulatory Proposal ("IRP"), Power and Water refused to base the calculation of its Po adjustment factor on the initial RAB value of $350 million:

> *"Power and Water acknowledges that it has not complied with the requirements of paragraphs 2.24 or 5.39 of the Final Decision Paper, as it has not used the rolled forward 2002 asset base valuation of $350 million in calculating the Po adjustment factor for standard control services." (p.55)*

4.4 Instead, the Po adjustment factor proposed by Power and Water in its IRP was based on an asset valuation prepared by Sinclair Knight Merz (SKM) based on the depreciated optimised replacement cost ("DORC") valuation methodology as at 1 July 2007.

4.5 Power and Water argued as follows:

> *"One of the main reasons for the engaging SKM, recognised experts in the field of asset valuations, was to address concerns raised by the Commission during the 2004 Regulatory Reset and subsequent Off-ramp Review. …*
>
> *[The SKM valuation] is consistent with generally accepted regulatory practice which the Commission must have regard to under Schedule 7, clause 6(2)(c) of the Access Code. …" (p.2)*
>
> *"Clause 68 of the Access Code requires the Commission to take into account, when setting either a price or revenue cap, the revenue requirements of the network provider during the relevant years, having regard to nine factors which are listed in the clause.*
>
> *Clause 68(d) of the Access Code requires the Commission to take into account 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. This is not confined to the establishment of an industry standard WACC. The cost of capital is not a rate – it is an annual cost of capital employed. This requires a determination of the value of the capital base.

To meet the requirements of clause 68(d), the Commission must have regard to a fair and market based value of relevant assets. This can only be made based on a consideration or review of the assets involved.

Further, clause 68(e) of the Access Code requires the Commission to take into account the provision of a return on efficient capital investment undertaken by the network provider in order to maintain network capacity that is commensurate with the commercial and regulatory risks involved. …

A DORC methodology is the valuation methodology most consistent with the Commission's regulatory objectives established under clauses 63 and 68 of the Access Code. Optimised replacement cost (ORC) valuations best replicate the outcomes of a competitive market because they:

- *Efficiently compensate the investor for investments over the long run;*
- *Replicate the lowest cost that would be incurred by a hypothetical new entrant wishing to enter the market, because the assets are optimised to remove obsolete, poorly sized or poorly located assets; and*
- *Provides the maximum price that a new entrant would be willing to pay the incumbent for existing assets rather than purchasing new assets.*

The DORC valuation, as a further refinement of the ORC:

- *Addresses issues with depreciated actual cost - the non consistency in relating historical values for capital assets and capital costs with current values for other expenses and revenues; and*
- *Establishes asset values that minimise incentives for by-pass of the network.*

The SKM asset valuation used by Power and Water in this Regulatory Proposal therefore establishes a current, true and correct value of the assets in a workably competitive market which will result in prices:

- *That are efficient;*
- *Meet the efficient long-run costs of providing regulated services, and include a return on investment commensurate with commercial and regulatory risks; and*
- *That allow Power and Water to replace assets over time.*

On this basis the SKM asset valuation meets the regulatory objectives which are established under clause 63 and clause 68 of the Access Code. The SKM Asset Verification and Valuation Report has been included at Appendix C.

There is a wealth of literature on the impact of asset write-downs on investment incentives for regulated companies. In particular, the application of a regulated WACC means that any asset write-down (let alone 30% of the entire asset base [the effective write-down if the Commission rejects this Regulatory Proposal]) results in negative investment returns. In light of this risk, no rational private sector investor would invest. The NEM investment regime reflects this reality." (pp.56-58)

Commission's initial assessment

4.6 The Commission stated that it had previously considered the arguments put by Power and Water in its IRP in favour of a DORC valuation of sunk assets as at 1 July 2002 as part of the Commission's Off-ramp Decision,[11] and that it stands by its reasoning underlying that Decision and so does not intend to re-open the Decision.

4.7 In particular, the Commission did not accept Power and Water's argument that the Off-ramp Decision provides a disincentive to investment. The Commission's approach does not involve writing down the value of any investments made since 1 July 2002, which also happens to be the date of Power and Water's corporatisation by the NT Government. Since corporatisation, all investments made in network assets are recognised at cost under the Commission's approach. In fact, the initial RAB is rolled forward over time according to a simple set of rules widely used by economic regulators

[11] Utilities Commission, *Networks Pricing: Asset Valuation Off-Ramp Final Decision Statement of Reasons*, April 2005.

across Australia which provide appropriate incentives for future investment by Power and Water.

4.8 The only argument advanced by Power and Water which could justify consideration by the Commission is Power and Water's claim that the Commission's use of the initial RAB:

> *"…will give rise to financial viability problems for Power Networks" (p.56)*

4.9 In order for the Commission to evaluate this important issue (in the absence of Power and Water providing its own analysis), on 28 August 2008 the Commission formally requested that Power and Water submit 20-year forecasts – consistent with the most recent Statement of Corporate Intent (SCI) – of key financial variables. Power and Water duly provided the forecasts as requested. The Commission required this information to update the financial model that was used at the time of the Off-ramp Decision.

4.10 In its Off-ramp Decision, the Commission concluded that:

> *"…the most appropriate single RAB from the plausible range is the asset value that would be sufficient (but no more) to ensure the ongoing financial viability of Power and Water's network business. …*
>
> *[By being no less] than a value that ensures the ongoing financial viability of the business, such a RAB would:*
>
> - *protect the network provider's legitimate business interests and investment in the electricity network,*
> - *facilitate the financial viability of regulated industries, and*
> - *ensure the reliability and quality of services and supply in regulated industries.*
>
> *[By being no more] than a value that ensures the ongoing financial viability the business, such a RAB would:*
>
> - *prevent misuse of monopoly or market power, and*
> - *promote efficiency and competition.*
>
> *… the Commission accepts that the financial viability of an asset-intensive business like Power and Water's regulated network business can be interpreted as implying that there is a high level of certainty that the business will be able to pay its bills as they fall due, and have sufficiently strong cashflow to raise the finance required to fund its continuing operations (including growth)."* [12]

4.11 As explained in the Off-ramp Decision, estimating the probability that an entity may default on its obligations given a particular level of cashflow is similar to the process undertaken by credit rating agencies when assigning a rating to an entity, and hence the methods employed by ratings agencies are commonly drawn upon in any financial viability analysis.

4.12 The minimum strength of the cashflow that is considered desirable is typically defined as that consistent with a stand-alone investment grade credit rating (that is, using the Standard & Poor's metric, a rating of triple-B or better). In the NT context (which involves slightly higher commercial risk than in the larger, more diversified networks), it is the Commission's view that the ongoing financial viability of Power and Water's regulated networks business requires that business to be in a position to sustainably generate cashflows sufficient to justify at least a single-A credit rating on a stand-alone basis. The RAB required is one that would sustainably generate cashflows sufficient to justify at least a single-A credit rating on a stand-alone basis.

4.13 The Commission therefore repeated the financial modelling undertaken for its Off-ramp Decision, updated in the following key respects:

---

[12] Utilities Commission, *Networks Pricing: Asset Valuation Off-Ramp Final Decision Statement of Reasons*, April 2005, p.27

- using 20-year financial projections provided by Power and Water in September 2008 of actual (not efficient) operating expenditures and of planned capital expenditure on network assets to roll forward asset values; and
- using updated benchmark ratios published by Standard & Poor's, the international credit rating agency (sourced from the AER's WACC Review Issues Paper[13]).

4.14 The results of this updated modelling indicated that:

- the initial RAB remains capable of generating net cashflows in excess of the minimum necessary to ensure at least a single-A stand-alone credit rating, and so ongoing financial viability; and
- use of the latest DORC value would give rise to cashflows that would sustain a triple-A credit rating for Power and Water's regulated network business. The ultimate beneficiary of such excessive net cashflows would be the NT Government as Power and Water's owner. The resultant excessive dividend stream would be the equivalent of an additional tax on electricity usage in the Northern Territory.

4.15 In view of these results, and having considered the desired outcomes set out in clause 63 of the NT Code, the objectives stated in section 6(2) of the *Utilities Commission Act* and having regard to the factors specified in clause 6(2) of schedule 7 to the NT Code, the Commission considered that the initial RAB value of $350 million remains appropriate.

Views in submissions on the initial draft determination

4.16 In its submission, Power and Water claimed that the initial regulatory value of $350 million gives rise to financial viability problems.

> *"…Power and Water is not convinced that use of the $350 million asset valuation, combined with the other aspects of the Commission's Draft Determination, will return cashflows to it or to the Northern Territory Government which are capable of maintaining a single A stand-alone credit rating. Power and Water's modelling suggests that under all scenarios, the Draft Determination does not provide sufficient revenues to fund Power and Water's costs." (p.11)*

4.17 In support of this claim, Power and Water advised the Commission that the forecasts previously provided to the Commission (and used by the Commission when making its initial draft determination) were incorrect. Power and Water advised that the revised forecasts:

> *"…are significantly larger than those that Power and Water previously advised to the Commission in its supplementary data submission in September 2008. This reflects a spreadsheet error made by Power and Water which has now been corrected." (p.5)*

4.18 Using its corrected capital and operating expenditure forecasts, Power and Water claimed that the revenue and cost scenario modelling that it has undertaken demonstrates that the initial RAB value of $350 million does not provide it with sufficient revenue to meet its forecast capital and operational expenditure over the third regulatory period.

Commission's further assessment

4.19 The Commission expressed disappointment that Power and Water had found it necessary to significantly revise the financial forecasts made available to the Commission in September 2008. This does not improve the Commission's confidence in Power and Water's financial forecasts at a time when that confidence is already diminished based on the previous track record.

---

[13] AER, *Review of the weighted average cost of capital (WACC) parameters for electricity transmission and distribution: Issues paper*, August 2008, pp. 66-71.

4.20 In light of these developments, the Commission decided to separate the issue of the initial regulatory value from the question of Power and Water's future financial viability. The implications of Power and Water's revised forecasts are taken up instead in chapter 5.

Commission's draft decision

4.21 The Commission confirmed its earlier decision, made as part of the Final Methodology Decision, that the regulatory value of Power and Water's regulated network assets at the commencement of the 2008/09 year for use when calculating the Po adjustment factor be based on the initial RAB value of $350 million as at 1 July 2002 (in July 2002 dollars), as determined by the Commission's 2005 Off-ramp Decision.

4.22 Accordingly, the Commission's draft decision was to approve Power and Water's revised regulatory proposal only if it was to roll forward the initial RAB value of $350 million using amounts calculated, determined or estimated in accordance with the Commission's November revised Po adjustment model, all related requirements elsewhere in the Draft Determination and, for matters not specifically addressed in the model or the Draft Determination, the requirements of clause 6.5.1 of the *National Electricity Rules*.[14]

Views submitted by Power and Water in its RRP

4.23 In its Revised Regulatory Proposal ("RRP"), Power and Water again refused to base the calculation of its Po adjustment factor on the initial RAB value of $350 million:

> *"…Power and Water has not applied a 2008-09 asset value based on the roll-forward of the $350 million asset valuation at 1 July 2002 in accordance with paragraph 5.39 of the Final Decision Paper. It has instead used the value determined by SKM in its Asset Verification and Valuation Report." (p.68)*

4.24 Instead, the Po adjustment factor proposed by Power and Water in its RRP was based on the asset valuation prepared by SKM based on the DORC valuation methodology as at 1 July 2007.

4.25 In support of this position, Power and Water reiterated its previous arguments against using the initial RAB value of $350 million and in favour of using the SKM RAB value based on DORC:

> *"A roll-forward of Power and Water's 'initial' regulatory asset value of July 2002 is not a true and correct valuation of Power and Water's current assets in 2008-09 for the purposes of establishing a Po factor for the next regulatory control period." (p.63)*
>
> *"A DORC methodology is the valuation methodology most consistent with the Commission's regulatory objectives established under clauses 63 and 68 of the NT Code." (p.65)*

4.26 Finally, Power and Water argued that:

> *"The Commission had regard to these matters in the 2005 Off-Ramp Decision, in which it:*
>
> - *formed an interpretation of deprival value at that time, finding that there is a basis to write-down an asset if there is a constraint on prices that can be charged; and*
> - *formed an interpretation of generally accepted regulatory practice, which was primarily based on gas network decisions at that time.*
>
> *It is Power and Water's view that the Commission should re-examine its interpretation of deprival value, in particular to take into account the 2007 and 2008 increases in retail tariffs and agreed price paths. A decision by the Commission to maintain the 2005 Off-*

[14] With regard to the process for establishing network pricing in the first year of the third regulatory period, the Final Methodology Decision opted to follow – to the maximum extent possible under the NT Code – the procedures recently included in the *National Electricity Rules* for arriving at a Final Determination, in order to achieve consistency with procedural practice now evident elsewhere in Australia in the regulation of infrastructure networks. The Version of the *National Electricity Rules* used by the Commission for the purposes of the Final Methodology Decision can be viewed on the networks pricing page (2009 Regulatory Reset) of the Commission's website (www.utilicom.nt.gov.au). This version is an extract of the *National Electricity Rules* Version 18.

Ramp Decision, and to ignore the SKM valuation, implies that Power and Water would not be able to recover the increase in network tariffs consequent to the use of the SKM valuation. This is not a valid assumption.

Further, Power and Water considers that the Commission's 2005 Off-Ramp valuation methodology is no longer consistent with generally accepted regulatory practice, in particular the introduction of Chapter 6 of the Rules and the new Gas Rules. This is because:

- *under a deprival value methodology, the Po is both a determinant of, and consequent to, the return on assets in the building block calculation. It is a determinant of the return on assets because the Commission's 2005 method calculates the value of the assets on the basis of future revenue. It is a consequence of the return on assets because the higher the asset base is, the higher the return on assets is, and therefore increases the Po. Generally accepted regulatory practice is to recognise this circularity, and to use DORC as the "circuit breaker"; and*
- *if Government agrees to increase the non-contestable retail electricity tariffs, and Power and Water Retail is willing to increase the contestable retail electricity tariffs, then the Po consequent to SKM can be recovered. In this case, there is no basis for the 2005 Off-Ramp method to arrive at any other number than the SKM value." (pp.66-67)*

Commission's final assessment

4.27 The Commission is not persuaded to overturn its 2005 Off-ramp Decision. The arguments put by Power and Water in its RRP are restatements or extensions of earlier arguments considered and rejected by the Commission.

Commission's final decision

4.28 In accordance with clause 6 of Schedule 7 of the NT Code, the Commission confirms its earlier decision that the regulatory value of Power and Water's regulated network assets at the commencement of the 2008/09 year for use when calculating the Po adjustment factor is to be based on the regulatory asset base ("RAB") value of $350 million (excluding gifted assets) as at 1 July 2002 (in July 2002 dollars) as determined by the 2005 Off-ramp Decision ("initial RAB value").

Rate of return on capital

Requirements of the final methodology decision

4.29 The Final Methodology Decision required that the rate of return on capital for the final year of the second regulatory period must be calculated in accordance with the relevant provisions of chapter 6 of the *National Electricity Rules* as applicable to an *ex post* assessment.

4.30 The Final Methodology Decision also mandated use of the following parameter values in accordance with the transitional arrangements applicable to the AER's upcoming NSW and ACT determinations:

- an equity beta (βe) of 1.0;
- the market risk premium (MRP) of 6.0%;
- the proportion of debt funding (D/V) of 0.6; and
- the assumed utilisation of imputation credits (gamma) of 0.5.

4.31 The Commission considered the review of weighted average cost of capital (WACC) parameters that the *National Electricity Rules* requires the AER to complete by 31 March 2009 to be an appropriate forum for any WACC issues to be comprehensively considered. Accordingly, the Commission indicated that in determining the final values of these parameters for the Draft Determination, the most-recently published views of the AER would be taken into account.

4.32 The Commission's Po adjustment model specifies the method by which the WACC is to be calculated and applied to the RAB to determine the 'return on capital' for the purposes of inclusion in the building block calculation of the revenue requirement for 2008/09, consistent with the relevant provisions of the *National Electricity Rules*.

Views submitted by Power and Water in its IRP

4.33 For its initial regulatory proposal, Power and Water used the WACC parameter values as prescribed in the Final Methodology Decision, and with regard to other necessary parameters amended only the debt risk premium from 1.1% to 2%. This resulted in a pre-tax nominal WACC of 10.45% and a pre-tax real WACC of 7.23%.

4.34 Power and Water also noted that the Commission was expected to update the WACC parameters based on latest information in its Final Decision.

4.35 Regarding the risk free rate, Power and Water argued that:

> *"Clause 6.5.2(c) of the Rules requires the nominal risk free rate to be the rate determined on a moving average basis from the annualised yield on Commonwealth Government bonds with a maturity of 10 years using the indicative mid rates published by the Reserve Bank of Australia.*
>
> *Consistent with clause 6.5.2(c) of the Rules, the Commission should therefore estimate the annualised yield on the 10-year government bond as a proxy for the risk free rate. Power and Water suggest using a 30 trading day average as it has extensive regulatory precedent and is regarded as the best balance between current information and avoiding very short term spikes in the rate." (p.61)*

4.36 Regarding the debt risk premium, Power and Water argued that:

> *"Clause 6.5.2(e) of the Rules states that "The debt risk for a regulatory control period is the premium determined for that regulatory control period by the AER as the margin between the 10 year Commonwealth annualised bond rate and the observed annualised Australian benchmark corporate bond rate for corporate bonds which have a maturity of 10 years and a credit rating from a recognised credit rating agency". Power and Water supports this approach being conducted by the Commission.*
>
> *Power and Water has not used the value set out in the Commission's Po Adjustment Model of 1.10% for the purposes of this Regulatory Proposal. Instead, it has used a value of 200 basis points, in line with recent regulatory precedent which takes into account the worldwide credit situation. In particular, Power and Water notes a recent memo prepared for the Victorian Regulator by Allen Consulting Group which is supportive of a 200 basis point debt margin." (p.61)*

Commission's initial assessment

4.37 The *National Electricity Rules* provide that the AER must review the WACC parameters to be adopted in determinations for electricity transmission and distribution network service providers. Reviews are to be conducted every five years with the first review concluded by 31 March 2009, at which time the AER is to release a final decision for both transmission and distribution.

4.38 The AER's reviews are limited by the *National Electricity Rules* to the individual WACC parameters rather than a review of the overarching framework in which the WACC is used. For example, the use of the nominal post-tax framework or the use of the capital asset pricing model (CAPM) for calculating the cost of equity are not subject to review by the AER.

4.39 Instead, the AER may review the values of and methods used to calculate:

- the nominal risk free rate;
- the equity beta;
- the expected market risk premium (MRP);
- the market value of debt as a proportion of the market value of equity and debt (i.e., the gearing ratio);

- the credit rating level to calculate the debt risk premium (DRP); and
- the assumed utilisation of imputation credits (i.e., gamma) to calculate the estimated cost of corporate income tax.

4.40 In the Issues Paper released for its current WACC parameters review,[15] the AER indicated that it saw merit in also reviewing the methods for determining:

- forecast inflation; and
- debt and equity raising costs.

4.41 The outcome of an AER review will 'lock in' the WACC parameters for all transmission determinations over the relevant period. For distribution determinations, a departure from the outcomes of this review is permissible under the *National Electricity Rules*, but only where there is persuasive evidence to depart from a value or method determined as part of the AER review.

4.42 At that time, key dates for the AER's current WACC parameters review timetable were as follows:

- 9 December 2008 - Publish draft statement of regulatory intent (distribution) and draft decision (transmission) and invite written submissions; and
- 31 March 2009 - Publish final statement of regulatory intent (distribution) and final decision (transmission).

4.43 Furthermore, the AER was due to release its final decision for the Final Distribution Determination for NSW and the ACT in April 2009.

4.44 In the initial draft determination, the Commission indicated its preference to await the outcome of these reviews to the maximum extent possible before settling on the WACC values to be used to calculate the Po adjustment factor. As Power and Water was not required to submit its proposed network tariff schedules for 2009/10 until end-April 2009, a mid-April 2009 date was considered the latest date possible for settling on the WACC values.

Views in submissions on the initial draft determination

4.45 In its submission, the NTMEU supported the Commission's proposed approach to await the outcome of the AER's reviews to the maximum extent possible before settling on the WACC values to be used to calculate the Po adjustment factor.

> *"The AER review on the WACC parameters should guide the UC in its WACC determination" (p.3)*

4.46 However, the NTMEU disagreed with Power and Water's proposal to increase the DRP from 1.1% to 2%. The NTMEU considered that it would be incorrect to set the DRP at this level when, in its opinion, the rise that has recently occurred in the DRP has been a temporary 'spike'.

Commission's further assessment

4.47 While acknowledging the NTMEU's concerns, the Commission did not consider the value of the DRP used in Power and Water's revised regulatory proposal to be a significant issue at this stage, as the final value would be the most current AER parameter value published at the time.

[15] AER, *Review of the weighted average cost of capital (WACC) parameters for electricity transmission and distribution: Issues paper*, August 2008, pp. 66-71.

Commission's draft decision

4.48 The Commission's draft decision was that the Po adjustment factor be determined immediately prior to Power and Water submitting its final pricing proposal for the regulatory year commencing 1 July 2009 based on the relevant WACC calculated as at a Nominated Date. The Nominated Date was to be the earlier of:

- 24 April 2009; and
- the later of the dates of publication of the AER's final statement of regulatory intent (distribution) published at the completion of its current WACC parameters review and of the Final Distribution Determination for NSW and the ACT.

4.49 The WACC as at the Nominated Date was to be calculated using the most current formulation adopted by the AER for this purpose and applying:

- for those parameters classified by the Commission as 'set parameters': the most current AER parameter values published at the time (whether in the form of draft or final values); and
- for those parameters classified by the Commission as 'market parameters': the value as measured on the day applying the most current methods adopted by, or proposed for adoption by, the AER for such a purpose.

4.50 For the purposes of the revised regulatory proposal, the Commission's draft decision was that Power and Water should take these various parameter values to be as follows:

Table 4-1
WACC Parameters

Set parameters	**symbol**	**value**
Market risk premium	MRP	6.0%
Utilisation of imputation (franking) credits	g	0.5
Proportion of debt funding	D/V	0.6
Equity beta	βe	1.0
Debt risk premium	DRP	2.0%
Corporate tax rate	T	30.0%
Market parameters	**symbol**	**value**
Inflation rate	f	3.0%
Nominal risk free rate	Rf	6.0%

4.51 Together, these parameter values imply a pre-tax nominal WACC of 10.45%.

4.52 The Commission's draft decision was to approve Power and Water's revised regulatory proposal only if it applied these parameter values in conjunction with the Commission's Po adjustment model. The Commission's Final Determination would provide for the Po adjustment factor underlying Power and Water's final pricing proposal for the regulatory year commencing 1 July 2009 to be based on the relevant WACC as calculated at the Nominated Date.

Views submitted by Power and Water in its RRP

4.53 For its RRP, Power and Water used the WACC parameter values as prescribed in the Draft Determination, resulting in a pre-tax nominal WACC of 10.45%.

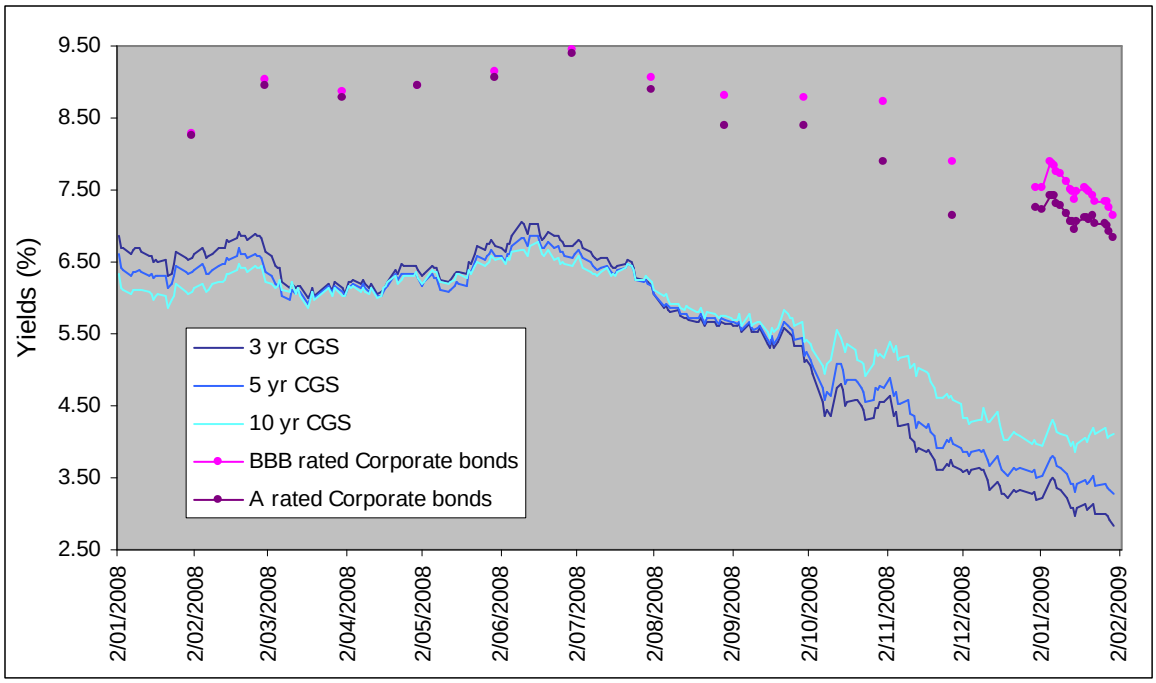
4.54 Power and Water also noted that, as per the Draft Determination, it expected that the Commission would update these parameters based on latest information in its Final Decision.

Commission's final assessment

4.55 On 16 February 2009, the AER submitted a Rule change proposal to the AEMC seeking to extend the timeframe for the AER's completion of its WACC reviews for electricity transmission and distribution network service providers, from 31 March 2009 to 1 May 2009.

4.56 This development, subsequent to the Commission's Draft Determination, means that the Nominated Date of 24 April 2009 is triggered and only the AER's draft decision on the WACC parameters and the AER's draft distribution determination for NSW and the ACT would be publicly available at that date for the WACC calculation.

4.57 The Commission has also further considered the impact of the volatility currently evident in world financial markets on the WACC parameters. The impact of the credit crisis on bond yields has been significant, as shown in the following chart. This in turn has a significant impact on the risk free rate and debt risk premium in the WACC calculation.



Source: RBA Bulletin Statistics: Capital Market Yields – Government Bonds and Non-government Instruments

4.58 Upon further consideration, in view of the volatility currently evident in world financial markets, the Commission considers that the WACC used for the purposes of calculating a Po adjustment factor to apply with respect to the 2008/09 year is most appropriately calculated based on parameters evident during the year in question (2008/09), rather than the WACC expected in the following year (2009/10). This difference is not material when – as has generally been the case in the past – there is little change in the WACC from one year to the next. However, a substantial departure from this 'normal' pattern has recently become evident between the 2008/09 and 2009/10 years, reflecting the impact which the global financial crisis has had (and is having) on the apparent level of the WACC. In hindsight, the Draft Determination (and the preceding Final Methodology Decision) erred in applying a 2009/10-based WACC rather than the 2008/09 WACC.

4.59 This change also removes the need for delaying the WACC determination until end-April 2009, as proposed in the Draft Determination.

4.60 In addition, the Commission recognises that the debt risk premium should be classified as a 'market parameter' along with the nominal risk free rate and the expected inflation rate.

4.61 In view of the recent timeframe extension for the AER's completion of the WACC parameters review, the Commission considers it appropriate that the values of the WACC parameters classified as 'set parameters' be those contained in the AER's proposed statement of regulatory intent (distribution) on the revised WACC parameters.[16] These values are shown in Table 4-2.

Table 4-2
WACC Set Parameters, 2008/09

Set parameters	symbol	value
Market risk premium	MRP	6.00%
Utilisation of imputation (franking) credits	g	0.65
Proportion of debt funding	D/V	0.60
Equity beta	βe	0.80
Corporate tax rate	T	30.00%

4.62 As to the values of the parameters classified as 'market parameters', the Commission recognises that these values have varied markedly over the course of 2008/09 (so far). Table 4-3 shows the values (i) as measured on 1 July 2008, (ii) as reported by the AER in its NSW and ACT draft determinations in November 2008, and (iii) as observed by the Commission in mid-March 2009. Given the observed volatility in these market parameter values, the Commission has opted to use a simple average of these three observations (rounded to two decimal places) as the basis for establishing the values of these parameters during 2008/09.

Table 4-3
WACC Market Parameters, 2008/09

Market parameters	symbol	at 1 July 2008	AER (Nov 2008)	at 15 March 2009	simple average
Expected inflation rate	f	2.40%	2.55%	2.69%	2.55%
Debt risk premium	DRP	6.59%	5.34%	3.50%	5.14%
Nominal risk free rate	Rf	2.50%	3.29%	4.31%	3.37%

4.63 Finally, for completeness, the Commission has also decided that it is appropriate to include the precise formula for calculation of the pre-tax nominal WACC in the Final Determination. The Commission's formulation is as follows:

$$WACC = k_e * \left(\frac{1}{(1-T*(1-g))}\right) * \left(\frac{E}{V}\right) + k_d \left(\frac{D}{V}\right)$$

where:

k_e is the return on equity (determined using the Capital Asset Pricing Model) and is calculated as:

$$r_f + \beta_e * MRP$$

where:

r_f is the nominal risk free rate for the regulatory period;

β_e is the equity beta; and

[16] AER, *Proposed Statement of the revised WACC parameters (transmission) and Statement of regulatory intent on the revised WACC parameters (distribution),* December 2008, p.7

MRP is the market risk premium;

k_d is the return on debt and is calculated as:

r_f + DRP

where:

DRP is the debt risk premium for the regulatory period;

($^E/_V$) is the value of equity as a proportion of the value of equity and debt, which is 1 – ($^D/_V$);

($^D/_V$) is the value of debt as a proportion of the value of equity and debt;

T is the corporate tax rate; and

g is the utilisation of imputation (franking) credits.

Commission's final decision

4.64 In accordance with clause 66(3) of the NT Code, the Commission has decided that the WACC for the purposes of calculating the Po adjustment factor applying to the 2008/09 year is to be calculated based on average parameter values during the 2008/09 year.[17]

4.65 In accordance with clause 1(2) of Schedule 8 of the NT Code, the Commission has decided that the average WACC applying during the 2008/09 year is to be calculated using the formulation in para 4.63 and the values specified in Table 4-4 (applied to two decimal places). For those parameters classified by the Commission in Table 4-4 as 'set parameters', the determined values are as proposed by the AER during 2008/09 for such purposes. For those parameters classified by the Commission in Table 4-4 as 'market parameters', the determined values are the simple average of the values (i) as measured on 1 July 2008, (ii) as reported by the AER in its NSW and ACT draft determinations in November 2008, and (iii) as observed by the Commission in mid-March 2009.

Table 4-4
WACC Parameters

Set parameters	**value**
Market risk premium (MRP)	6.00%
Utilisation of imputation (franking) credits (g)	0.65
Proportion of debt funding ($^D/_V$)	0.60
Equity beta (βe)	0.80
Corporate tax rate (T)	30.00%
Market parameters	**value**
Expected inflation rate (f)	2.55%
Nominal risk free rate (Rf)	5.14%
Debt risk premium (DRP)	3.37%

[17] This decision represents the main variation from the Draft Determination. As explained further in Box 1 in chapter 3 and in the Commission's final assessment above, the Commission decided to base the WACC on 2008/09 rather than 2009/10 parameter values because (i) the WACC is being applied for the purposes of calculating costs in 2008/09 and (ii) in view of the uncertainty surrounding 2009/10 WACC parameters given the volatility currently evident in world financial markets.

4.66 Based upon the above parameter values, the Commission determines the WACC to be used for the purposes of calculating the Po adjustment factor to be 9.55%.

X factor

Requirements of the final methodology decision

4.67 The Final Methodology Decision stated that the allowed year-on-year movement in the tariff basket would be determined by the CPI minus X control, and that the value of X in the CPI minus X control would be as determined by the Commission using a total factor productivity (TFP) based approach.

4.68 The X factor is comprised of three components as follows:

$X \equiv X_1 + X_2 - X_3$

where:

X_1 = the difference between the TFP growth for the electricity distribution industry in Australia and that for the economy as a whole;

X_2 = the difference between the best observed operating expenditure partial productivity level in the electricity distribution industry in Australia and Power and Water's operating expenditure partial productivity level; and

X_3 = the difference between the input price growth for Power and Water and that for the economy as whole.

4.69 For the Final Methodology Decision, a preliminary value of the X factor was estimated by the Commission's consultants GHD Meyrick in order that Power and Water could develop its initial regulatory proposal. GHD Meyrick suggested the following preliminary component values:

- X_1 = 0.0% (compared with 1.75% for the 2004 Reset);
- X_2 = 0.25% (unchanged, at the Commission's request, on the 2004 Reset); and
- X_3 = 1.1% (compared with 0% for the 2004 Reset).

4.70 Accordingly, the Final Methodology Decision required the preliminary value of the X factor to be –0.85%, derived as follows:

$X = X_1 + X_2 - X_3$

$= 0.0\% + 0.25\% - 1.1\%$

$= -0.85\%$

This represents a real price *increase* of 0.85% per annum (compared with the real price *decrease* that has applied to the second and subsequent years of the second regulatory period of 2% per annum).

4.71 The Final Methodology Decision stated that the final X factor (and component values) for use in Power and Water's revised regulatory proposal were to be as determined by the Commission in the Draft Determination.

Views submitted by Power and Water in its IRP

4.72 Power and Water did not comment directly on the X values included in the initial Po adjustment model.

4.73 Power and Water instead reiterated its criticisms of the TFP foundations of the Commission's approach to setting the X values. In particular, Power and Water criticised the Commission's proposed approach on the grounds that it did not allow for the RAB to be rolled forward through the regulatory period. Specifically, Power and Water claimed that the Commission's approach:

> *"…does not roll forward Power and Water's RAB between each year of the regulatory control period, meaning that Power and Water's asset base is not assumed to grow in real terms at all over the regulatory period. This is at odds with what Power and Water considers will be the case. The proposed method therefore does not meet Power and Water's requirements to maintain financial capital maintenance, because Power and Water will essentially only receive a return on, and of, capital for 2008-09 expenditure (and the RAB at the start of the regulatory control period), not on its forecast rolled forward RAB." (p.20)*

Consultant's recommendation

4.74 GHD Meyrick was requested to make its final recommendation to the Commission on the value of each of the three X components prior to release of the initial draft determination.

4.75 This saw GHD Meyrick confirm its recommended X factor for the Northern Territory's third regulatory period as –0.85% (i.e., a real price increase of 0.85% or a nominal price increase of CPI + 0.85%) derived as follows:

$$X = X_1 + X_2 - X_3$$

$$= 0\% + 0.25\% - 1.1\%$$

$$= -0.85\%.$$

4.76 GHD Meyrick's full report is available on the Commission's website.

X_1 component

4.77 In finalising the X_1 component recommendation, the Commission requested GHD Meyrick to undertake further reviews of recent studies of electricity distribution TFP in Australasia, North America and Europe. In addition, GHD Meyrick requested data from Power and Water to support the calculation of a TFP index for Power and Water over the last several years, to check Power and Water's recent productivity growth performance for consistency with that observed for network service providers in other jurisdictions.

4.78 GHD Meyrick's assessment was that TFP growth rates of 0.9% and 0.7% per annum were reasonable estimates of the electricity distribution industry's and the economy's TFP performance, respectively, in recent years. This is based on trend growth rates of 0.9% for the electricity distribution industries in New Zealand and the US and a range of 0.4% to 1.3% for sustainable TFP growth in Victoria, and average multifactor productivity growth since 2000 for the market sector as constructed by the ABS.

4.79 While these TFP growth rates produce a productivity differential of 0.2%, GHD Meyrick recommended that the X_1 component be set at zero in recognition of the data uncertainties involved.

4.80 Furthermore, this 0% recommendation was conservative (i.e., in favour of Power and Water) when Power and Water's TFP performance of 1.1% per annum since 2000 is considered. GHD Meyrick believed that it was appropriate to allow a margin for recent increased input usage possibly contributing to increases in currently unmeasured (in TFP analysis) outputs such as reliability and system security.

X_2 component

4.81 To help finalise recommendations for the X_2 component, the Commission requested GHD Meyrick to undertake an update of the 2003 Meyrick analysis of Power and Water Network's operating expenditure ("opex") productivity gap taking account of operating environment differences. GHD Meyrick was requested to use the updated data for Power and Water and benchmarking data for other businesses rolled forward by adjusting for price movements and, where practical, estimated industry productivity growth.

4.82 GHD Meyrick's results showed that Power and Water had the highest unit opex of the 13 included electricity distribution businesses, even after allowing for Power and Water's adverse operating conditions and transmission equivalent operations. For

this reason, GHD Meyrick preferred to take the average of the four rural electricity distribution businesses that have the most similar customer densities to Power and Water as the relevant benchmark. These electricity distribution businesses are Ergon Energy, Country Energy, Powercor and SP AusNet. For Power and Water to reach the same unit opex as its four peers, after allowing for Power and Water's adverse operating conditions and transmission equivalent operations, GHD Meyrick estimated that Power and Water would have to reduce its unit opex by 26.9%. This identified reduction in annual unit opex is larger than that identified in the 2003 analysis because it now appears that Power and Water understated its corporate overhead and IT services cost allocations in the earlier study.

4.83 GHD Meyrick recommended retaining the conservative X_2 component of 0.25% from the second regulatory period to account for 10 percentage points of the identified 26.9% opex efficiency gap over a 10 year period. Its recommendation was that the remaining 16.9 percentage points of the identified efficiency gap should be incorporated in the Po adjustment at the end of the second regulatory period.

4.84 These recommendations are based on setting the conservative benchmark of the average opex efficiency of the four electricity distribution businesses with customer density closest to Power and Water and assuming those electricity distribution businesses have had no opex partial productivity growth since 2003.

X_3 component

4.85 The Commission requested GHD Meyrick to examine available evidence on movements in electricity distribution input prices relative to the economy as a whole before finalising its recommendation on the X_3 component.

4.86 GHD Meyrick considered that extrapolation of the electricity, gas and water ("EGW") sector labour price index differential relative to the labour price index for all industries for the period 2002–07 represents the best forecast of the opex price differential for the third regulatory period. Similarly, it considered that extrapolation of the EGW sector capital goods price index differential relative to the capital goods price index for all industries for the period 2002–07 represents the best forecast of the capital price differential for the third regulatory period.

4.87 Between 2002 and 2007, the labour price index for electricity, gas and water increased by an average annual rate of 4.59% compared to an increase for all industries of 3.72% producing a labour price differential of 0.89%. This labour price differential is also of similar magnitude to those obtained from recent forecasting exercises.

4.88 The capital goods price index for electricity, gas and water increased annually by 5.27% on average between 2002 and 2007 compared to an increase of 4.07% for all industries producing a capital input price differential of 1.19%. Based on available electricity industry capital price forecasts, GHD Meyrick considered its use of the ABS EGW capital price index growth for 2002–07 to forecast electricity distribution capital prices for the third regulatory period as a conservative approach.

4.89 GHD Meyrick concluded that, assuming that opex accounts for one third of electricity distribution costs while capital costs account for the remaining two thirds, it was reasonable to consider that available data produces an overall input price differential or X_3 component estimate of 1.1%.

Commission's initial assessment

4.90 The Commission had previously considered and rejected Power and Water's arguments that the Commission's use of a TFP-based X factor does not consider future costs or the roll forward of Power and Water's regulated asset base between each year of the regulatory period.

4.91 To reiterate, if Power and Water's contention regarding expected future cost pressures is supported by the evidence available to the Commission, under the Commission's approach (through the X_3 component) electricity distribution prices will be

allowed to increase in real terms during the third regulatory period. Revenue will be aligned with efficient costs through the Po adjustment, such that real revenue will then increase more than proportionately with increases in output in recognition of the trend to slower productivity growth and higher input price increases facing the electricity distribution industry.

4.92 Likewise, once revenue is aligned with efficient costs for the final year of the second regulatory period via the Po adjustment, the Commission's approach involves network tariffs being adjusted year by year over the third regulatory period on the basis of a weighted average price cap using productivity–based methods. Because a price cap mechanism is being used, revenue is set on a per unit of output basis rather than as an absolute amount (as would be the case if a revenue cap was being used instead of a price cap). This means that as output grows over time, so does allowed revenue and, correspondingly, allowed costs. Implicitly, the RAB is allowed to grow in line with output (adjusted for forecast productivity growth) rather than being held constant in real terms as implied by Power and Water.

4.93 GHD Meyrick advised the Commission that, in productivity analysis, the value of the capital stock (the equivalent of the RAB) is rolled forward using actual capital expenditure and an assumed rate of economic depreciation. The annual user cost of capital is then determined by multiplying the value of the capital stock each year by the depreciation rate plus a rate reflecting the opportunity cost of capital. This allows a return of and return on capital in a process broadly equivalent to the building block approach.

4.94 Productivity-based and building block-based approaches differ mainly because the productivity approach sets the future change in allowed revenue (and, thus, costs) on the basis of industry–wide developments rather than specific forecasts of the business' own costs.

4.95 After carefully considering the GHD Meyrick analysis and recommendations, the Commission indicated that it was confident that the X factor estimated by GHD Meyrick – a recognised expert in the field – and derived by reference to industry-wide total factor productivity and inflation provided a no less (statistically) unbiased estimate of the change in Power and Water's unit costs over the regulatory period than would be derived under a building block approach.

Views in submissions on the initial draft determination

4.96 Both Power and Water and the NTMEU criticised the application of the TFP methodology used for deriving the X factor component values.

4.97 Power and Water's major concern was that:

> *"Power and Water does not consider that the outcomes of the GHD Meyrick Report are sufficiently accurate for the purposes of setting either the X_2 factor or the 2008-09 efficient operating and maintenance cost forecasts" (p.3)*

4.98 The NTMEU did not accept the Commission's final X factor of -0.85%. The NTMEU considered that, based on the information provided by GHD Meyrick for the initial draft determination, the following X factor component values should apply for the third regulatory period:

- X_1 should be 0.4% (or higher);
- X_2 should be considerably higher than 0.25%; and
- X_3 should be 0%.

4.99 In relation to the X_1 component value, the NTMEU's major concern was that:

> *"The NTMEU does not consider that if the UC is going to use TFP as the basis for revenue setting, that the UC is correct in including a conservative discount, that data should be selectively used or discarded and that the actual data developed should stand. Further the most appropriate data to use is that closest in similarity to PW and this is the*

Victorian experience where Meyrick has identified that its opex benchmarking uses two of the Victorian businesses.

On this basis there is strong evidence that X_1 should be +1.7 based on the decade of Victorian business performance, and on the outcomes in NZ in the early years after disaggregation. At the very least, the average of the Victorian businesses for the period since 2000 should be used without selective exclusion of some data, implying an X_1 of 0.4 as a minimum." (pp.34-35)

4.100 In relation to the X_2 component value, the NTMEU was again concerned that conservative judgments were used, and that the cumulative impact of these conservative judgments is unknown and cannot be assessed. The NTMEU also considered that the adverse operating conditions submitted by Power and Water are not unique to Power and Water, and should be further assessed and analysed before being accepted. On this basis, the NTMEU advocated that X_2 should be higher than 0.25%.

"There has been no assessment as to the impact of this cumulative conservatism upon conservatism, but there is no doubt that it is excessive. What is required is an assessment which excludes any conservatism so that the UC can decide if it should introduce a level of conservatism which applies now. Thus level of conservatism should be targeted to reduce in firm and known steps over an agreed time at which point it should cease or remain constant at an agreed level in to the future." (p.37)

4.101 In relation to the X_3 component value, the NTMEU considered that the GHD Meyrick analysis was no longer valid due to the recent revision of international and national growth forecasts as a result of the 2008 financial crisis. As such, the NTMEU advocated that X_3 is likely to be the same as for the current regulatory period (0%).

"Based on the recent forecasting showing the "first" world as a whole is heading towards recession and Australia to half of its forecast growth, and that the major economies of China and India are forecast to have a significant (at least 30%) reduction in growth forecasts, there is a need to revalue X_3. In particular the prices of materials used by Power and Water has already shown massive reductions (>50%) and these prices are likely to remain for much of the next regulatory period.

On this basis the NTMEU considers that X_3 is likely to be the same as for the current period and should be set at zero." (p.39)

Commission's further assessment

4.102 Power and Water's concerns in this area related primarily to the Commission's acceptance of GHD Meyrick's assessment of opex efficiency. These concerns are addressed in chapter 5 of this report, under the discussion of 2008/09 operating expenditure.

4.103 For the purposes of this part of the Determination, what is relevant are the values assigned to the X_1, X_2 and X_3 components. Only the NTMEU raised specific issues regarding the values nominated by the Commission in the initial draft determination.

4.104 As to the X_1 component, the Commission was satisfied that the necessary on-balance judgments with respect to a conservative discount, the selection of data used or discarded and the development of comparative data have all been applied in a manner which provides a reasonable estimate of the change in industry unit costs over the regulatory period.

4.105 As to the X_2 component, the Commission was satisfied that the value assigned is consistent with the efficiency adjustment undertaken with regard to operating expenditure. This latter issue is considered further in chapter 5.

4.106 As to the X_3 component, the Commission accepted that its consultant's X_3 component recommendation was influenced heavily by developments during the second regulatory period, and that there are reasons to believe input price inflation in the energy and construction sectors could ease as a result of the changed global economic circumstances of the last few months. Whether this would justify reverting to an X_3 value of 0% as suggested by the NTMEU is not so certain, however. As the Commission's approach is grounded on giving most weight to actual financial observations rather than (uncertain) forecasts, the Commission preferred to be guided by the track record over the

past five years. This is consistent with the Commission's approach in the 2004 Reset in this area and with other aspects of its stance in the Draft Determination. The expectation is that, under a consistent approach over time, the inevitable swings and roundabouts will eventually cancel out.

Commission's draft decision

4.107 The Commission's draft decision was that the following component values were to be used for the purposes of calculating the value of the X factor to apply during the third regulatory period:

- $X_1 = 0.0\%$;
- $X_2 = 0.25\%$; and
- $X_3 = 1.1\%$

where:

X_1 = the difference between the TFP growth for the electricity distribution industry in Australia and that for the economy as a whole;

X_2 = the difference between the best observed operating expenditure partial productivity level in the electricity distribution industry in Australia and Power and Water's operating expenditure partial productivity level; and

X_3 = the difference between the input price growth for Power and Water and that for the economy as whole;

and

$X = X_1 + X_2 – X_3$.

Views in submissions on the Draft Determination

4.108 In its submission on the Draft Determination, the NTMEU expressed concern that the assumptions and information about current economic conditions and the economic outlook used by the Commission and its advisers in setting the X factor (and the Po adjustment factor) were no longer appropriate, and argued that the recent global and domestic economic downturn should be reflected in the Commission's final determination on these values.

> *"Since the Draft Decision was prepared, it is quite clear that the overall economic situation in Australia and overseas, has changed dramatically. In its response to the Initial Draft Determination, NTMEU pointed out to the UC that it had considerable concerns about using TFP and with the relatively few benchmark businesses used to develop the TFP X factors. What is now apparent is that the benchmark businesses had their TFP benchmarks developed during a booming domestic and global economy and, therefore, demonstrated an inflationary tendency.*
>
> *The recent and so very rapid deterioration in the Australian and world economies has not been accommodated into the benchmarks used by the UC and its consultants. As a result, the UC is in the process of allowing increases in Po and the X factors that are no longer appropriate and will therefore be wildly incorrect. Attached in an appendix are extracts from a recent presentation to the AER by our associate, the Major Energy Users, regarding its draft determination for the NSW electricity distribution businesses. In its draft decision, AER had accepted the advice of its consultants that capital and labour costs for electricity distribution were showing higher growth than general inflation. As a result of the global economic downturn, the AER is now looking to update its assessments of "real" cost growth pressures.*
>
> *An associated aspect of the UC incorporating cost increases which are clearly superseded by the global economic downturn, is that network charges will increase by more than a fair and reasonable amount. This in turn will add to consumer costs that may not be able to be managed in the current economic environment, causing stress on trade exposed and commercial businesses, and tourism. The outcome of that stress could be closures or scaling back, with resultant job losses and revenue reductions to the Territory.*
>
> *The UC is no doubt aware of the rapidly declining economic conditions, and as the outcome of its review does not apply for another 5 months or more, it has the obligation to*

> *reassess its draft decision in light of unprecedented change in the global and domestic economic situation and outlook, and make the appropriate adjustments in order to deliver fair and reasonable and efficient outcomes in this pricing review.*
>
> *The NTMEU would see that a reassessment of the current economic conditions would lead to a significant reduction in the value of Po (causing a reduction in the year 1 new network charges) and increases in the X factors (causing a reduction over time of network charges)." (pp.2-3)*

4.109 The impact of recent global and domestic economic downturn on Power and Water's 2008/09 operating expenditure and the Po adjustment factor is discussed in chapter 5.

Views submitted by Power and Water in its RRP

4.110 Power and Water accepted the values that the Commission assigned to the X_1, X_2, X_3 components, and the final X factor of -0.85%:

> *"Power and Water accepts these X factors and has applied them in this Regulatory Proposal and in the Commission's Po Model." (p.73)*

Commission's final assessment

4.111 The Commission acknowledges the point made by the NTMEU that there are some reasons to believe that input costs pressures in the electricity distribution industry in Australia in future are easing as a result of the global financial crisis. However, just by how much, and by how far relative to other sectors of the economy, remains to be seen.

4.112 Balanced against this is the fact that the capital goods price index used by GHD Meyrick has been updated by a further year by the ABS. The labour price index has not yet been updated. Based on this partial updating, the Commission estimates that the latest observed overall input price differential has increased from 1.1% to around 1.8%.

4.113 After careful consideration, the Commission has decided to stick with the 1.1% estimate of the X_3 component. The updating of the data above is only partial, and undoubtedly would represent a peak observation. Moreover, sticking with observed data rather than forecasts is generally consistent with the TPF approach adopted in the second regulatory period. During that period, there is no disputing that Power and Water's input costs rose faster than prices generally. While this is recognised in the Po adjustment factor, the Commission's TFP approach does not compensate Power and Water. Such compensation is, instead, likely over time – albeit with a lag – provided the Commission applies its approach consistently. If it were to chose now to set the X_3 component at zero, as argued by the NTMEU, this inconsistency of approach on the part of the Commission (switching from observed differentials at one reset to projected differentials at the next reset) would eliminate the possibility of compensation for cyclical errors as well as invite the criticism that the Commission is picking winners for one interest group over another.

Commission's final decision

4.114 The Commission determines that the following component values are to be used for the purposes of calculating the value of the X factor to apply during the third regulatory period:

- X_1 = 0.0%;
- X_2 = 0.25%; and
- X_3 = 1.1%

where:

X_1 = the difference between the TFP growth for the electricity distribution industry in Australia and that for the economy as a whole;

X_2 = the difference between the best observed operating expenditure partial productivity level in the electricity distribution industry in Australia and Power and Water's operating expenditure partial productivity level; and

X_3 = the difference between the input price growth for Power and Water and that for the economy as whole;

and

$X = X_1 + X_2 – X_3$.

Corrections and revisions to the Po adjustment model

Requirements of the final methodology decision

4.115 The Commission's Po adjustment model ("the model") sets out the manner in which Power and Water's efficient costs of supplying standard control services in a single regulatory year are to be calculated for the purposes of the 2009 Reset.

4.116 Central to the Commission's Po adjustment model is the following formulation of the building blocks method for calculating the required level of revenue in a particular year:

Required revenue =

Return on opening capital

plus Return on new capital

plus Return of capital (depreciation)

plus Return of efficient/prudent operating expenditure.

4.117 The Final Methodology Decision made provision for Power and Water (and other stakeholders) to request corrections and modifications to the Po adjustment model issued by the Commission where this is considered necessary to achieve consistency with the applicable provisions of the *National Electricity Rules* or of the NT Code. Requests for corrections or modifications were to be lodged with the Commission by no later than 30 June 2008.

Commission's initial assessment

4.118 Power and Water sought – and the Commission agreed – to a number of minor changes to the Po adjustment model in June 2008.

4.119 First, to reflect Power and Water's practice of calculating depreciation at the individual asset level in its asset register, the Commission agreed to Power and Water's actual depreciation becoming an input into the model. In the initial version of the model, depreciation was calculated based on average remaining asset lives for each of Power and Water's asset classes.

4.120 Secondly, calculation of 2008/09 annual depreciation (return of capital) was amended to include the depreciation of 2008/09 new capital. In the initial version of the model, this component of annual depreciation in 2008/09 was unintentionally omitted.

4.121 Thirdly, the Commission sought to correct the 2008/09 new capital formula so that only depreciation of 2008/09 new capital is subtracted from the 2008/09 new capital value. In the initial version of the model, total annual depreciation was incorrectly subtracted from the 2008/09 new capital value.

4.122 The Commission requested its consultants ACIL Tasman to undertake an appraisal of Power and Water's proposed Po adjustment and make a recommendation to the Commission as to whether that proposed adjustment should be accepted or rejected (and why).

4.123 During its work for the Commission, ACIL Tasman also identified an error in the Commission's Po adjustment model which had the effect of erroneously including in the 'return of' capital component of the building blocks calculation all of the nominal

straight-line depreciation amount rather than only regulatory depreciation. Regulatory depreciation is nominal straight-line depreciation *less* the holding gain (or indexation) component. This error would have resulted in Power and Water being compensated for the depreciation of its assets, but not having this compensation reduced by the amount by which the value of these assets has appreciated on account of the holding gain.

4.124 The AER deals with this by netting the indexation/holding gains element off annual depreciation.[18]

4.125 When correcting for this error in the Commission's Po adjustment model (as shown in Table 4-5), Power and Water's IRP proposed a Po adjustment factor of 61.4%.

Table 4-5
Impact of Modelling Correction

2008/09	($'000)	Po
Actual revenue	76,034	
Original required revenue	**140,871**	**85.3%**
less Holding gains included in nominal depreciation	-18,187	-23.9%
Corrected required revenue	**122,684**	**61.4%**

4.126 The Po adjustment model accompanying the initial draft determination was modified accordingly.

Views in submissions on the initial draft determination

4.127 In its submission, Power and Water accepted the need to modify the building blocks calculation of required revenue in the Po adjustment model to explicitly recognise the role of the indexation/holding gain element of the year's opening RAB value.

> *"Power and Water acknowledges that …the "holding gain" methodology used by the Commission to remove the asset inflation component of the asset roll-forward has precedent and is consistent with the AER's Roll-Forward Model." (p.7)*

4.128 However, Power and Water claimed that the Commission's proposed approach:

> *"…means that Power and Water does not receive a return on the inflated closing asset base for 2008-09. This is inconsistent with general regulatory precedent" (p.4)*

4.129 Accordingly, Power and Water requested that the Commission consider further amending the Po adjustment model:

> *"…such that the return on opening assets for 2008-09 is calculated on an inflated opening asset base. The holding gains amount will then be removed from the calculation of the required revenue, which will cancel out the double count of asset inflation.*
>
> *Alternatively, the Commission could consider not removing the holding gains amount from the 2008-09 required revenue, on the basis that this will be removed in any event at the end of the third regulatory period through the roll-forward model at that time." (p.10)*

Commission's further assessment

4.130 As the Commission understood Power and Water's argument, at issue was how the Commission's Po adjustment model calculated the 'return on new capital' component of required revenue. For the initial draft determination, this component was calculated as follows:

> 2008/09 [nominal] net capex less [real-terms] depreciation of 2008/09 new capital
>
> multiplied by ((1+pre-tax real WACC)^0.5-1).

[18] The AER terms straight line depreciation less the holding gain as "regulatory depreciation". The Commission has not adopted this terminology.

4.131 The Commission accepted that this formulation erred in two respects. First, the calculation of the 'new capital' invested in 2008/09 is over-stated by subtracting a real-terms – rather than a nominal-terms – measure of the within-year depreciation of the assets financed by that new capital.

4.132 Secondly, once the 'new capital' amount for 2008/09 is properly measured, the return 'on' that new capital is under-stated by being based on a real-terms – rather than a nominal-terms – WACC. As the amount of depreciation included in the return 'of' capital component with respect to the 2008/09 new capital does not include any holding gains component, Power and Water is deprived of any holding gains amount on this new capital.

Commission's draft decision

4.133 The Commission's draft decision was to further modify its Po adjustment model to calculate the 'return on new capital' component of required revenue as follows:

> 2008/09 [nominal] net capex less [***nominal***] depreciation of 2008/09 new capital
>
> multiplied by ((1+pre-tax ***nominal*** WACC)^0.5-1).

4.134 The resultant modified version of the model was referred to throughout the Draft Determination as the "November revised Po adjustment model".

4.135 The Commission also proposed that, for the purpose of calculating the Po adjustment factor, the building blocks calculation of required revenue (R*) in 2008/09 should recognise the role of the indexation/holding gain element of the year's opening RAB value as follows:

> Required revenue =
>
> Return on opening capital
>
> plus Return on new capital
>
> plus Return of capital (depreciation)
>
> ***less Holding gains included in nominal depreciation that are already included in the 'return on opening capital' (as measured by the indexation of the year's opening RAB value)***
>
> plus Return of efficient/prudent operating expenditure.

4.136 The Commission's draft decision was therefore to approve Power and Water's revised regulatory proposal only if, for standard control services, the proposed Po adjustment factor is calculated strictly in accordance with the Commission's "November revised Po adjustment model", and all related requirements in the Final Methodology Decision and elsewhere in the Draft Determination.

Commission's final assessment

4.137 No dissenting views on these matters were received in submissions on the Draft Determination.

4.138 However, the Commission updated certain component estimates as part of its Final Determination process.

4.139 The Po adjustment model was originally developed by the Commission in early May 2008. At that time, actual quarterly CPI was only available up to the December quarter 2007. The model therefore assumed a forecast quarterly inflation rate of 3%.

4.140 Actual CPI figures up to the December quarter 2008 are now available from the ABS, and the Commission has revised its Po adjustment model to update the CPI

forecasts with actual quarterly CPI. Actual CPI in 2008 was 4.35% (four quarter average, March 2008 to December 2008), as compared to the Commission's forecast of 3%.[19]

4.141 Consistent with the Commission's decision to calculate the Po adjustment factor as at the commencement of the 2008/09 year,[20] the 2008/09 inflation rate for the indexation calculation has been amended from 3% to 3.75% (that is, the annual inflation rate expected in 2008/09 as at the commencement of that year). The RBA's current forecast as at 1 July 2008 of the CPI inflation rate for the June quarter 2009 compared with June 2008 was 3.75%.[21]

4.142 Updating the CPI affects the RAB roll forward primarily due to the increase in the indexation amount. While the 2008/09 opening RAB and depreciation expense increases due to a higher inflation rate, the increase in the 2008/09 holding gains is greater. This results in an overall decrease to the Po adjustment factor. The CPI update also has a very minor impact on 2008/09 operating expenditure (0.002% increase), due to an increase in debt-raising costs resulting from the increase in the 2008/09 opening RAB.[22]

4.143 When revising the CPI forecast for actuals and amending the 2008/09 inflation rate in the Po adjustment model (as shown in Table 4-6), Power and Water's RRP proposed a Po adjustment factor of 51.1%.

Table 4-6
Impact of CPI revision to model

	2008/09 ($'000)		
	Revision for CPI actuals	**Power and Water's original proposal**	**variance**
Return on Opening Capital	63,294	62,902	392
plus Return on New Capital	2,861	2,861	-
plus Return of Capital (Depreciation)	22,492	22,197	295
less Holding Gains	-22,719	-18,063	4,656
plus Efficient Operating Expenditure	54,920	54,919	1
Total Required Revenue	120,848	124,816	-3,968
Estimated Revenue	79,994	79,994	-
Po adjustment factor	**51.1%**	**56.0%**	-4.9%

[19] Also, the 2007/08 inflation rate used in the RAB roll forward in previous versions of the Po adjustment model was 2.71%, based on two quarters of actual CPI and two quarters of 3% forecast inflation. Updated for actual quarterly CPI in the model, CPI for 2007/08 is 3.4% (four quarter average, September 2007 to June 2008).

[20] Refer to the discussion on the Rate of return on capital earlier in this chapter.

[21] Reserve Bank of Australia, *Statement On Monetary Policy*, 11 August 2008, p.62

[22] The formula for Debt raising costs in the model is: Debt Raising Cost Benchmark * Proportion of Debt Funding * 2008/09 Opening RAB.

CHAPTER

5

Po ADJUSTMENT FOR STANDARD CONTROL SERVICES

Introduction

5.1 This chapter contains the Commission's statement of reasons for its decision in relation to the Po adjustment factor proposed by Power and Water in its revised regulatory proposal ("RRP").

5.2 The Po adjustment factor is a factor which indicates the extent to which the weighted average of network access tariffs applying in the second regulatory period requires adjustment at the end of that period in order to form an appropriate basis for network access tariffs in the third regulatory period.

5.3 The Po adjustment factor to apply to the tariff basket in 2008/09 (the final year of the second regulatory period) is calculated as follows:

$$Po = (R^* - R)/R$$

where:

R* is the estimated total efficient cost of Power and Water supplying standard control services in 2008/09 (in $ millions); and

R is the estimated total revenue derived by Power and Water from the existing prices applying to standard control services in 2008/09 (in $ millions).

5.4 The Commission's Po adjustment model[23] calculates the Po adjustment factor using the following building blocks specification of required revenue (R*) in 2008/09:

Required revenue =

Return on opening capital

plus Return on new capital

plus Return of capital (depreciation)

less Holding gains included in nominal depreciation that are also included in the 'return on opening capital' (as measured by the indexation of the year's opening RAB value)

plus Return of efficient/prudent operating expenditure.

5.5 To be approved by the Commission, the proposed Po adjustment factor in Power and Water's RRP must be calculated strictly in accordance with the Commission's Po adjustment model, and all related requirements in the Final Methodology Decision and the Draft Determination.

[23] The Commission's final Po adjustment model (March 2009) is available on the Commission's website.

5.6 If the Commission refuses to approve an amount or value in relation to the proposed Po adjustment factor, the substitute amount or value on which the determination is based is to be:

- calculated on the basis of all applicable approved components of the regulatory proposal; and
- amended from that basis only to the extent necessary to enable the amount or value to be approved in accordance with the Final Methodology Decision, the Draft Determination or (otherwise and as applicable) the relevant provisions of chapter 6 of the *National Electricity Rules* or the NT Code's pricing principles.

2008/09 opening RAB value

Introduction

5.7 Both the 'return on opening capital' and the 'return of capital (or depreciation)' building block components depend crucially on the opening value of the regulatory asset base ("RAB") for the final year of the second regulatory period (2008/09). This 2008/09 opening value is the RAB value as at 1 July 2008.

Requirements of the final methodology decision

5.8 The Final Methodology Decision required the 1 July 2008 RAB value for the purposes of calculating the Po adjustment factor to be the initial RAB value (as at 1 July 2002) of $350 million (in July 2002 dollars) rolled forward using amounts calculated, determined or estimated in accordance with the requirements of clause 6.5.1 of the *National Electricity Rules*.

5.9 The Commission has provided its reasons for confirming the initial RAB value (as at 1 July 2002) at $350 million in chapter 4. The focus of this section is on the roll-forward mechanism used by Power and Water.

5.10 The roll forward mechanism specified in the *National Electricity Rules* effectively involves the following:

closing RAB value =

opening RAB value

plus the indexation of the year's opening RAB value

plus annual net capital expenditure (= annual gross capital expenditure net of any asset donations or contributions)

less the written down regulatory value of any assets disposed of during the year

less annual nominal straight-line depreciation on the opening RAB value.

5.11 The depreciation element of the roll forward is dealt with in the next section.

Power and Water's initial proposal

5.12 Power and Water's proposed 2008/09 opening RAB value was $606.2 million.

5.13 Power and Water did not roll forward the initial RAB value as at 1 July 2002 annually through to 2008/09. Instead, its IRP derived the 2008/09 opening RAB value by starting with an opening asset value as at 1 July 2007 which was then rolled forward to 1 July 2008.

5.14 Power and Water's roll forward is summarised in Table 5-1.

Table 5-1
Power and Water's RAB Roll Forward

($'000)	year's opening RAB value	plus indexation of opening value	plus annual net capex (a)	less asset disposals (b)	less annual dep'n of assets (c)	**equals year's closing RAB value**
2002/03	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2003/04	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2004/05	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2005/06	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2006/07	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2007/08	562,335	15,216	44,889	0	16,199	**606,242**
2008/09	606,242					

(a) Annual gross capital expenditure net of any asset donations or contributions.
(b) Written down regulatory value of any assets disposed of during the year.
(c) Annual nominal straight-line depreciation on the opening RAB value.

Consultant's recommendation

5.15 ACIL Tasman observed that Power and Water's:

> *"…abandonment of the initial Regulatory Asset Base of $350 million as at 1 July 2002 and Power and Water's refusal to provide any information which would assist ACIL Tasman or the UC in rolling the Regulatory Asset Base forward from the previous price control…."(p.2)*

represented the "most material" failure to comply with the methodology in the Po workbook.

5.16 ACIL Tasman was able to perform this roll forward using information submitted in past regulatory accounts by making the following simplifying assumptions:

> *"*
> - *Asset additions are in the same proportion as the calculated 1 July 2002 asset categories.*
> - *Solver [in MS Excel] was used to determine the 1 July 2002 asset values subject to:*
> - *Total must sum to $350 million*
> - *Non-negativity constraint*
> - *Minimising the sum of squared differences between estimated 1 July 2007 asset proportions and the SKM 1 July 2007 asset proportions (i.e. implying that at 1 July 2007 the rolled-forward RAB asset categories are in the same proportion as the SKM report)*
> - *Regulatory depreciation was calculated as straight-line nominal depreciation less inflation of opening assets." (p.5)*

5.17 ACIL Tasman also identified some errors in Power and Water's calculation of depreciation. To check that Power and Water was using an appropriate methodology, ACIL Tasman re-performed the calculation of straight-line depreciation. In calculating this, ACIL Tasman used the SKM valuations of remaining life and standard life in 2007, assuming that the remaining life at 2002 was simply five years' higher than the remaining life in 2007. New additions received half a year's depreciation charge, based on the standard life of assets for that category – again from the SKM valuation. This calculation suggested that Power and Water was underestimating nominal straight-line depreciation in its IRP by 16% to 19%.

5.18 Offsetting this understatement was Power and Water's use of the SKM valuation rather than the $350 million initial RAB value.

5.19 The results of ACIL Tasman's roll forward are summarised in Table 5-2.

Table 5-2
ACIL Tasman's Estimation of the RAB Roll Forward

($'000)	year's opening RAB value	plus indexation of opening value	plus annual net capex [a]	less asset disposals [b]	less annual dep'n of assets [c]	**equals year's closing RAB value**
2002/03	350,000	10,813	15,078	0	14,338	**361,553**
2003/04	361,553	8,513	17,266	0	15,054	**372,278**
2004/05	372,278	9,083	11,499	0	15,760	**377,100**
2005/06	377,100	12,061	22,385	0	16,661	**394,885**
2006/07	394,885	11,522	28,351	0	17,743	**417,015**
2007/08	417,015	11,284	44,889	0	14,748	**458,441**
2008/09	458,441					

(a) Annual gross capital expenditure net of any asset donations or contributions.
(b) Written down regulatory value of any assets disposed of during the year.
(c) Nominal straight-line depreciation on the opening RAB.

Views in submissions on the initial draft determination

5.20 In its submission, the NTMEU argued that the capex series submitted by Power and Water should not be used in the RAB roll-forward. The NTMEU considered that the roll-forward should be based on efficient (i.e., optimised) capex.

> *"…the NTMEU has a residual concern that there is no optimisation of assets included in the roll forward model used by the UC, as it sees the need for optimisation provides a significant incentive for PW to be efficient in its use of capex. The NTMEU is aware that the approach in the NER does not permit ex post optimisation of actual capex, and this is a deficiency in the NER." (p.9)*

5.21 In its submission, Power and Water requested that the Commission consider amending the roll-forward methodology to remove the depreciation of all assets associated with capital expenditure 'overspends' in the second regulatory period in the roll-forward of assets to 1 July 2009.

> *"As the Commission is aware, the capital expenditure overspend amount in the second regulatory period was significant. Using the reconciliation provided in table 5-18 of the [initial] Draft Determination, without seeking to identify the capital expenditure "benchmark" inherent in the 2004 Determination, the overspend was around $4 million in 2005-06, $4.7 million in 2006-07, $26 million in 2007-08 and $41 million in 2008-09. These are assets for which Power and Water received no return on assets to compensate it for its cost of capital, and no depreciation allowance.*
>
> *While it is standard regulatory practice for a network company to receive no return on assets for "overspent" amounts in the regulatory period in which they were incurred, it is difficult to understand why the roll-forward model should commence depreciating these assets when no depreciation amount has been recovered through network tariffs.*
>
> *Power and Water therefore requests that the Commission consider making an amendment to its roll-forward model. The amendment would remove depreciation of all assets associated with capital expenditure "overspends" in the second regulatory period, by excluding depreciation amounts in the roll-forward of assets to 1 July 2009. Power and Water would have no issues with using the forecast and actual amounts in table 5-18 of the [initial] Draft Determination for this purpose.*
>
> *This amendment would ensure that Power and Water will receive revenue sufficient to recover depreciation charges over the life of assets that are equal to the value of the assets, and therefore would satisfy the financial capital maintenance principle. It would also remove distortions in the incentives that Power and Water faces to underspend on its capital expenditure "benchmarks" inherent in the TFP methodology." (pp.8-9)*

Commission's initial assessment

5.22 The Commission noted that the fact that ACIL Tasman was able to perform the roll forward of the $350 million initial RAB value did not mitigate the fact that Power and Water had not performed this analysis itself and preferred not to provide it to ACIL Tasman or the Commission when subsequently requested.

5.23 Ignoring the initial RAB value used, in its IRP Power and Water:

- did not submit its capital expenditure for the required period (only providing capex for 2006/07, 2007/08 and 2008/09);
- did not report/explicitly exclude asset disposals or capital contributions for the period;
- appeared to have estimated depreciation; and
- did not separate out the depreciation on the rolled forward asset base and new additions each year.

5.24 As shown in Table 5-3, after correcting for Power and Water's depreciation under-estimation in the Po adjustment model, the impact of using the $350 million valuation as at 1 July 2002, rather than Power and Water's submitted SKM asset valuation, resulted in a 24% decrease to the opening RAB in 2008/09. There was also a commensurate reduction to the return on opening capital in 2008/09.

Table 5-3
2008/09 Opening RAB
Summary of Adjustments

	($'000)
Power and Water proposed opening RAB	606,242
Adjustment of RAB to reflect $350m valuation at 1 July 2002	-145,147
Corrections to depreciation calculation	-2,654
Adjusted opening RAB	**458,441**

5.25 For the purposes of the Draft Determination, the Commission accepted ACIL Tasman's estimate of the 2008/09 opening RAB value of $458.4 million.

5.26 No adjustments were proposed to the capital expenditure values submitted by Power and Water. Consistent with the approach adopted under the *National Electricity Rules*, no *ex post* optimisation of actual capex was proposed. This provides certainty that investments made in the network will be recovered, and thus provides further incentive for investment and reduces the risk to investors which otherwise would have to be compensated for by a higher allowed rate of return.

5.27 However, the Commission had to assume that the capital expenditure values submitted by Power and Water in its IRP were gross capex. While the model submitted by Power and Water's implied that there have not been any asset disposals or capital contributions since 2002, there was evidence that Power and Water had disposed of some assets since 2002. The RAB roll forward submitted by Power and Water as part of its 2006/07 Regulatory Accounts included $0.2 million of disposals in 2006/07, and Power and Water included Proceeds from Asset Disposals in 2006/07 and 2007/08 in the Po adjustment model revenue sheet.

5.28 The Commission was not persuaded by Power and Water's argument that depreciation of all assets associated with capital expenditure "overspends" in the second regulatory period should be removed from the roll forward of assets to 1 July 2009. Power and Water's argument was that only the removal of such depreciation would ensure that it received revenue sufficient to recover depreciation charges over the life of assets equal to the value of the assets.

5.29 However, it is not the recovery of capital that is jeopardised by capital overspends, but the return achieved *on* that capital. That is, the Commission regards the return 'on' capital to be the swing variable, with the use of revenue first to fund operating expenditure and then to fund the return 'of' capital always taking priority over the use of revenue to fund the return 'on' capital (or profits). The fact that a service provider is not able to recover the return on capital involved in any capital overspending is a strong incentive to overspend only when the return on the capital invested in prospect is sufficient over the longer run (i.e., beyond the current regulatory period).

5.30 As shown in Table 5-4, there was also a 24% reduction in the 2008/09 'indexation of the opening RAB value' component of the required revenue calculation when the initial RAB value was set at $350 million as at 1 July 2002, rather than Power and Water's submitted SKM asset valuation.

Table 5-4
2008/09 Indexation of the Year's Opening RAB value
Summary of Adjustments

	($'000)
Indexation of the year's opening RAB value implicit in Power and Water's figuring	18,187
Adjustment due to setting initial RAB at $350m at 1 July 2002	-4,434
Adjusted indexation of the year's opening RAB value	**13,753**

5.31 The 2008/09 amount of the 'indexation of the year's opening RAB value' component of the RAB roll forward also decreased due to the lower RAB. As explained in chapter 4, the holding gains element must be netted off the annual depreciation as it is already allowed for under the 'return on opening capital' element of the building blocks calculation. Consequently, a decrease in the holding gains amount results in an increase to required revenue.

Commission's draft decision

5.32 The Commission's draft decision was to approve certain aspects of the IRP, namely:

- the series of gross capital expenditures ("gross capex") on regulated network assets, over the second regulatory period to 2007/08 as submitted by Power and Water for use in the RAB roll forward, namely:

Table 5-5
Annual Gross Capital Expenditure[(a)]
Second Regulatory Period

($'000)	2004/05	2005/06	2006/07	2007/08
Gross capex	11,499	22,385	28,351	44,889

(a) Before deduction of any asset disposals or (included) gifted assets during the year.

5.33 However, the Commission was not satisfied that in any other respects the IRP as submitted met the requirements established in the Final Methodology Decision in relation to the 2008/09 opening RAB value. The Commission required the following changes to the regulatory proposal before it was prepared to approve any revised regulatory proposal:

Amendment 5-1

5.34 With regard to the year's opening RAB value for 2008/09 (and the associated series for each of the preceding years in the second regulatory period), the revised proposal must be based on *either*:

- the values set out in Table 5-6 below:

Table 5-6
Commission's Estimates of Opening RAB Values
Second Regulatory Period

($'000)	2004/05	2005/06	2006/07	2007/08	2008/09
Opening RAB	372,278	377,100	394,885	417,015	458,441

- *or* values which Power and Water could demonstrate to the Commission's satisfaction were consistent with application of the November revised Po adjustment model and all related requirements elsewhere in the Draft Determination.

5.35 In order to demonstrate to the Commission's satisfaction that proposed alternative values are consistent with application of the November revised Po adjustment model, the draft decision required Power and Water to complete the roll-forward calculations in the Po adjustment model, including all capital contributions and asset disposals for each of the asset classes over the time period, and using the depreciation calculations and presentation in the model, and to complete all associated reconciliations as part of its documentation.

Views in submissions on the Draft Determination

5.36 In its submission, the NTMEU reiterated its argument that the roll-forward should be based on efficient (i.e., optimised) capex.

> *"The NTMEU notes in section 5.28 of the Draft Determination that the UC has decided that it will not carry out any optimisation of the PWC assets and refers to the current National Electricity Rules which preclude such an ex post action. The NTMEU considers that the UC is in error regarding this approach as the NT Law and its attached Code (which is the relevant legislative framework applying to this pricing review) applying to the PWC assets quite specifically requires that such an optimisation should be carried out. Schedule 6 of the Code points 4 (3) and 4 (4) state that:*
>
> > *(3) The fixed assets must embody the most efficient technology for providing the service and only include those assets related to the optimal configuration and capacity of the network.*
> >
> > *(4) Such an optimisation process is to ensure that network users do not have to pay for redundant or oversized assets that are not used to provide network services and should provide the network provider with the incentive to undertake optimum investment decisions.*
>
> *These provisions clearly require the UC to ensure that the assets included in the asset base are fully optimised." (pp.1-2)*

Power and Water's revised proposal

5.37 Power and Water did not accept the values as proposed by the Commission in the Draft Determination for the year's opening RAB value for 2008/09 of $458.4 million (and the associated series for each of the preceding years in the second regulatory period), and instead proposed alternative values.

5.38 Power and Water's proposed 2008/09 opening RAB value was $605.9 million.

5.39 Power and Water did not roll forward the initial RAB value as at 1 July 2002 annually through to 2008/09. Instead, its RRP derived the 2008/09 opening RAB value by starting with an opening asset value as at 1 July 2007, which was then rolled forward to 1 July 2008.

5.40 Power and Water proposed the same capex series over the second regulatory period to 2007/08 as submitted in its IRP. Power and Water marginally increased its capex estimate for 2008/09. This is discussed in the next section.

5.41 Power and Water's revised roll forward is summarised in Table 5-7.

Table 5-7
Power and Water's RAB Roll Forward

($'000)	year's opening RAB value	plus indexation of opening value	plus annual net capex [a]	less asset disposals [b]	less annual dep'n of assets [c]	**equals year's closing RAB value**
2002/03	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2003/04	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2004/05	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2005/06	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2006/07	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2007/08	562,335	19,096	44,889	0	20,467	**605,853**
2008/09	605,853					

(a) Annual gross capital expenditure net of any asset donations or contributions.
(b) Written down regulatory value of any assets disposed of during the year.
(c) Annual nominal straight-line depreciation on the opening RAB value.

Commission's final assessment

5.42 Ignoring the initial RAB value used, in its RRP Power and Water again did not fully complete the roll-forward calculations in the Po adjustment model over the time period, and did not include all capital contributions and asset disposals for each of the asset classes. The Commission of necessity must assume that the capital expenditure values submitted by Power and Water in its revised proposal are net capex (i.e., gross capex net of any asset donations, contributions or disposals).[24]

5.43 The main difference between the 2008/09 opening RAB value proposed by Power and Water in its revised proposal, as compared to its IRP, is that Power and Water used the Commission's Po adjustment model to calculate the annual nominal straight-line depreciation in its revised proposal.

5.44 As shown in Table 5-8, the impact of using the $350 million valuation as at 1 July 2002 rather than Power and Water's submitted SKM asset valuation is a 24% decrease to the opening RAB in 2008/09. There is also a similar reduction to the return on opening capital in 2008/09.

Table 5-8
2008/09 Opening RAB
Summary of Adjustments

	($'000)
Power and Water proposed opening RAB	605,853
Adjustment of RAB to reflect $350m valuation at 1 July 2002	-145,335
Adjusted opening RAB	**460,518**

5.45 This adjusted opening RAB is slightly greater than the opening RAB proposed by the Commission in the Draft Determination. The Commission made some minor modifications to ACIL Tasman's roll-forward of the $350m initial RAB value to correct for

[24] The Draft Determination referred to Power and Water's submitted capex series as gross capex. On reflection, the Commission recognises that a more accurate interpretation, reflecting its treatment of the numbers provided by Power and Water, is that the capex series is gross capex net of any asset donations, contributions or disposals ("net capex").

some small anomalies in the depreciation calculations.[25] This results in an estimate of the 2008/09 opening RAB value of $460.5 million, as compared to $458.4 million in the Draft Determination.

5.46 No adjustments have been made to the capital expenditure values submitted by Power and Water. Consistent with the approach adopted under the *National Electricity Rules*, no *ex post* optimisation of actual capex is proposed. This provides certainty that investments made in the network will be recovered, and thus provides further incentive for investment and reduces the risk to investors which otherwise would have to be compensated for by a higher allowed rate of return.

5.47 As shown in Table 5-9, there is also a 24% reduction in 2008/09 'indexation of the opening RAB value' component of the required revenue calculation when the initial RAB value is set at $350 million as at 1 July 2002, rather than Power and Water's submitted SKM asset valuation:

Table 5-9
2008/09 Indexation of the Year's Opening RAB value
Summary of Adjustments

	($'000)
Indexation of the year's opening RAB value implicit in Power and Water's figuring	22,719
Adjustment due to setting initial RAB at $350m at 1 July 2002	-5,450
Adjusted indexation of the year's opening RAB value	**17,269**

5.48 The 2008/09 amount of the 'indexation of the year's opening RAB value' component of the RAB roll forward decreases due to the lower RAB. As explained in chapter 4, the holding gains element is netted off the annual depreciation as it is already allowed for under the 'return on opening capital' element of the building blocks calculation. Consequently, a decrease in the holding gains amount results in an increase to required revenue.

5.49 Also, consistent with the Commission's decision to calculate the Po adjustment factor as at the commencement of the 2008/09 year,[26] the 2008/09 inflation rate for the indexation calculation has been amended from 3% to 3.75% (that is, the annual inflation rate expected in 2008/09 as at the commencement of that year). The RBA's current forecast as at 1 July 2008 of the CPI inflation rate for the June quarter 2009 compared with June 2008 was 3.75%.[27] Consequently, the 2008/09 amount of the 'indexation of the year's opening RAB value' is greater than the proposed amount in the Draft Determination.

Commission's final decision

5.50 In accordance with clause 6 of Schedule 7 of the NT Code, the Commission approves, for use in the RAB roll forward, the series of actual net capital expenditure ("net capex") on regulated network assets over the second regulatory period to 2007/08 as set out in Table 5-10:

[25] For example, in some instances the depreciation calculation was modified to ensure that once the standard life of an asset had been reached and the asset was completely depreciated, the subsequent annual depreciation values are zero. This modification was made to prevent negative depreciation values.

[26] Refer to the discussion on the Rate of return on capital and Corrections and revisions to the Po adjustment model in chapter 4.

[27] Reserve Bank of Australia, *Statement On Monetary Policy*, 11 August 2008, p.62

Table 5-10
Annual Net Capital Expenditure[a]
Second Regulatory Period

($'000)	2004/05	2005/06	2006/07	2007/08
Net capex	11,499	22,385	28,351	44,889

(a) After the deduction of any asset disposals or (included) gifted assets during the year.

5.51 In accordance with clause 6 of Schedule 7 of the NT Code, the Commission determines the opening RAB value for 2008/09 (and the associated series for each of the preceding years in the second regulatory period) to be as set out in Table 5-11:

Table 5-11
Opening RAB Values
Second Regulatory Period

($'000)	2004/05	2005/06	2006/07	2007/08	2008/09
Opening RAB	371,261	375,537	392,734	415,391	460,518

5.52 In accordance with clause 66(3) of the NT Code, the Commission has decided that the annual holding gains in 2008/09 included in both nominal depreciation and the 'return on opening capital' (as measured by the indexation of the year's opening RAB value) is to be calculated as the opening RAB value ($460.518 million) multiplied by the annual inflation rate expected in 2008/09 as at the commencement of that year. For this purpose, the Commission determines that the annual inflation rate expected in 2008/09 as at the commencement of that year (CPI_0) to be 3.75%, being the RBA's current forecast as at 1 July 2008 of the CPI inflation rate for the June quarter 2009 compared with June 2008.

2008/09 return on new capital

Requirements of the final methodology decision

5.53 The Commission's Po adjustment model involves the 'return on new capital' component of required revenue being calculated as follows:

2008/09 net capex less depreciation of 2008-09 new capital

multiplied by ((1+pre-tax nominal WACC)^0.5-1).

5.54 Calculation of the relevant WACC has already been addressed in chapter 4.

5.55 This section deals with the 2008/09 net capex amount on which the 'return on new capital' component of required revenue is calculated.

5.56 The Final Methodology Decision did not explicitly state the requirements to be met by the 2008/09 net capex amount being used in Power and Water's regulatory proposal. However, the Final Methodology Decision provided that, where a regulatory proposal relates to a matter not specified or prescribed in the Final Decision, the Commission would refuse to approve that matter only if:

- where the matter is subject to a specific requirement in the NT Code – it is inconsistent with the Code's requirement;
- where the matter is not subject to any specific requirement in the NT Code – it is inconsistent with the relevant provision of chapter 6 of the *National Electricity Rules*; or
- where the matter is not subject to any specific requirement in either the NT Code or chapter 6 of the *National Electricity Rules* – it is inconsistent with the NT Code's pricing principles.

Power and Water's initial proposal

5.57 The 2008/09 capital expenditure figure included in the Po adjustment model submitted by Power and Water was $56.6 million. This compares with $28.4 million in 2006/07 and $44.9 million in 2007/08.

5.58 Power and Water stated that:

> *"Despite the higher forecast expenditure, the 2008-09 expenditure forecast is both efficient and prudent and meets the required capital expenditure objectives, factors and criteria set out in the Rules.*
>
> *The Commission has not explicitly requested that Power and Water explain its forecast capital expenditure for 2008-09 in terms of the requirements of clause 6.5.7 of the Rules. However, there is a very strong relationship between the size of the Po and the 2008-09 capital expenditure forecast.*
>
> *For that reason, Power and Water has undertaken a detailed review of the 2008-09 capital expenditure program on the basis that it considers that paragraphs 2.22 and 3.35 of the Final Decision Paper require that Power and Water must comply with Chapter 6 of the Rules in the event that a matter has been dealt with in the Rules but has not been dealt with in the Access Code. The Rules require that capital expenditure be justified against clause 6.5.7." (p.49)*

5.59 Power and Water acknowledged that its capital expenditure has increased rapidly since 2005/06. Power and Water explained that this increase, in particular the increase in expenditure between 2006/07 and 2007/08, is attributable to Power and Water's movement away from a funding approach used prior to 2007/08 which involved determining an aggregate capital spend based on a number of financial indicators which was then allocated among Power and Water's various business arms. The movement away from this approach to an 'objective need' and 'capacity to deliver' funding methodology in 2006/07 identified a significant increase in capital expenditure for 2007/08.

Consultant's recommendation

5.60 With regard to Power and Water's capital improvement plan and the results of moving away from the funding envelope which was self-imposed prior to 2007/08, ACIL Tasman's assessment was that:

> *"It seems reasonable that the capital expenditure scheduled for completion in 2008/09 represents a degree of "catch-up" expenditure, although the IRP and discussion with Power and Water suggest that going forward capital expenditure will continue to be of this magnitude." (p.7)*

5.61 ACIL Tasman did not undertake an efficiency audit of capital expenditure planned in 2008/09. They did however observe that:

> *"We have some concerns regarding Power and Water's ability to manage so many projects in one year, although we note that many of these expenditures relate to the continuation of projects which are already underway (for example the activities related to the Ron Goodin Power Station, which represents 30% of planned expenditure). Minor capital works projects represent another 28% of total expenditure, and we have some concerns that these might not all be completed within 2008/9. However, such questions require a full engineering efficiency audit. Consequently, we propose no adjustments to the capital expenditure used for the roll forward." (p.7)*

Commission's initial assessment

5.62 The 2008/09 capex figure of $56.6 million included in the initial Po adjustment model submitted by Power and Water represented a 26% annual increase over the 2007/08 level of capex, which in turn was a 58% increase on the 2006/07 level, which in turn was a 27% increase on the 2005/06 level. The 2008/09 capex figure represented an average annualised increase of 36% on the $22.4 million level in 2005/06.

5.63 After due consideration, in its initial draft determination the Commission indicated that it was not convinced that these very high annual levels of capex will be

maintained, as they appear to mainly reflect a catch up on account of under-spending on asset renewal and replacement in earlier years. The Corporation's SCI forecasts imply some easing back in overall capex spending. Nevertheless, the Commission indicated that it was prepared to accept the IRP estimate as a basis for calculating the 'return on new capital' component of required revenue in 2008/09. It seems likely that any under-spending against this figure in 2008/09 will be incurred in the following year or two.

Commission's initial draft decision

5.64 In the initial draft determination, the Commission indicated it was willing to approve the submitted 2008/09 estimate of gross capital expenditure ("gross capex") of $56.582 million for use in calculating the 2008/09 'return on new capital' component of required revenue.

Views in submissions on the initial draft determination

5.65 In its submission, Power and Water advised that it had revised its 2008/09 capex estimate upwards to $74.7 million.

5.66 In addition, Power and Water advised the Commission of its intention to submit an updated estimate of 2008/09 capital expenditure in its revised regulatory proposal. The revised estimate was to include forecast expenditure in relation to the recent incidents surrounding the failure of the Casuarina Zone Substation (CZSS) in September and October 2008.

> *"A major explosion occurred on 19 September 2008 at the CZSS which feeds power to about 15,000 customers in surrounding areas. Since then, the CZSS has been operating at approximately two thirds its normal capacity.*
>
> *Emergency generation equipment has been sourced from around Australia with some 61 sets comprising 47 MW now in Darwin. These generators will provide Power and Water with additional security and flexibility while the CZSS is restored.*
>
> *Power and Water has established the Power System Remedial Asset Management Program in response to the CZSS incident. As the Commission is also aware, the Northern Territory Government (Government) has commissioned an independent investigation into the CZSS incident, and that it is already Government policy to implement all of the inquiry's recommendations. In this regard, all expenditure that is consequent to the inquiry is considered by Power and Water to be prudent and will set service standards going forward.*
>
> *It is likely that Power Networks' operating and capital expenditure plans will be very different in two months' time. In this regard, the Commission should be aware that Power and Water intends to include a section in its Revised Regulatory Proposal (RRP) that sets out expected expenditure consequent to the recent events surrounding the CZSS, and demonstrate that this expenditure is prudent and efficient." (p.7)*

5.67 In its submission, the NTMEU argued that the Commission should be cautious about accepting Power and Water's 2008/09 capex estimate of $56.6 million.

> *"…the NTMEU is not necessarily opposed to the level of capex implied by the UC draft determination. However, it does have a clear concern that:-*
>
> - *such capex allowances claimed do not have a specific outcome clearly stipulated (what PW states in its application about capex is all high level "warm and fuzzies"),*
> - *past capex has not been assessed for efficiency (raising the concern that future capex might not be efficient)*
> - *there is no measurable outcome in terms of performance standards" (p.31)*

5.68 The NTMEU also echoed ACIL Tasman's doubts regarding Power and Water's ability to undertake such a large capital expenditure program in a single year.

5.69 The NTMEU suggested that 2008/09 efficient capital expenditure for Power and Water should be based on average actual capex since 2003 (adjusted for inflation), resulting in a 2008/09 efficient capex estimate of around $30-40 million.

> *"…the capex implied by the Po adjustment is based on the recent capex caused by a need to catch up. If PW had spent wisely and consistently over the current period, and assuming its 08/09 capex is indeed achieved, then an appropriate level of capex to set the new Po would be an average over the entire period since 2003, adjusted for inflation. … On this basis the NTMEU would consider that a capex allowance of some $30-40m pa is probably in the range of efficiency. What is totally unacceptable is the implied claimed allowance of PW of nearly $60m pa." (p.20)*

5.70 Referring to the Commission's figures in Table 5.18 of the initial draft determination, the NTMEU also highlighted that Power and Water's total capex for the first three years of the 2004 regulatory period was less than the total forecast capex over the same period, using Power and Water's own forecasts at the time of the 2004 Reset. The NTMEU was concerned that Power and Water might again deliberately underspend on capex in the third regulatory period in order to achieve "windfall gains", and that this would occur at the expense of system performance.

> *"That PW early in the current period did not use all of its allowed capex and so achieved a considerable windfall profit and there are fears that this may again apply." (p.20)*

Commission's further assessment

5.71 The Commission pointed out that Power and Water's estimate of capex in 2008/09 was a matter for the revised regulatory proposal. Because Power and Water had flagged that its estimate was not yet settled, the Commission acknowledged that it needed to step back from approval of the IRP estimate.

5.72 The Commission foreshadowed, however, that it was unlikely to incorporate any additional spending arising from correcting the failure of the Casuarina Zone Substation in September and October 2008 in the Po adjustment factor and X factor approved by the Final Determination. This was because it is likely to be too early to be certain about the amounts involved, and the extent to which existing (and future) end-users should bear the costs involved. Instead, the Commission expected to deal with these particular issues via a cost pass through application once the third regulatory period commences. The Commission undertook to ensure that such a consideration could be triggered under the cost pass through arrangements to be approved.

Commission's draft decision

5.73 The Commission was not satisfied that the IRP as submitted met the requirements established in the Final Methodology Decision in relation to the 2008/09 annual gross capital expenditure amount. The Commission required the following changes before it was prepared to approve any revised regulatory proposal:

Amendment 5-2

5.74 With regard to the annual estimate of gross capital expenditure ("gross capex") on regulated network assets in 2008/09, the revised proposal must be based on *either*:

- a value of $56.582 million;
- *or* a value which Power and Water could demonstrate to the Commission's satisfaction was consistent with the November revised Po adjustment model and all related requirements in the Final Methodology Decision and elsewhere in the Draft Determination.

Power and Water's revised proposal

5.75 Despite advising in its submission on the initial draft determination that it had revised upwards its 2008/09 capex estimate to $74.7 million, the 2008/09 capital expenditure value proposed by Power and Water in its RRP was $56.8 million. This compares with $56.6 million submitted by Power and Water in its IRP.

> *"Power and Water has not adopted the values proposed by the Commission. It has updated its 2008-09 capex values." (p.10)*

5.76 Power and Water reiterated in its RRP that:

> *"Power and Water's capital expenditure has increased rapidly since 2005-06:*
>
> - *in 2005-06, capital expenditure was $22.4 million;*
> - *in 2006-07 capital expenditure was $28.4 million;*
> - *in 2007-08 capital expenditure was $44.9 million; and*
> - *in 2008-09 capital expenditure is expected to be $56.8 million.*
>
> *This increase, in particular the increase in expenditure between 2006-07 and 2007-08, is attributable to a movement by Power and Water away from a funding envelope that it imposed on itself prior to 2007-08....*
>
> *...Under the new funding methodology, Power and Water determines its expenditure requirements having regard for [among other things]:*
>
> - *an "objective need" to undertake investment – Power and Water now assesses its ability to meet its current regulatory and legislative obligations and requirements, such as standard of service requirements and supply reliability targets, and seeks expenditure in order to meet these. This supports prudent and efficient investment in line with good industry practice;*
> - *the "capacity to deliver" its capital works program – Power and Water now considers its resource ability/capacity to undertake each individual capital project within the context of the resource requirements and constraints of the total works program (i.e. the total capital works program), and seeks to include only those projects that it can deliver. The adoption of a funding methodology based on "objective need" and "capacity to deliver" has led to a significant amount of "catch up" expenditure in 2007-08 and 2008-09. These are works that are necessary, but were deferred under the funding envelope approach;" (pp.54-55)*

5.77 Power and Water also noted that any capital expenditure that may be required as a result of the recommendations from the Davies Report has not been included in its capex estimate.

> *"Pursuant to paragraph 5.57 of the Draft Determination these costs would be dealt with by a cost pass through application in the third regulatory period." (p.58)*

Commission's final assessment

5.78 The Commission has not made any adjustments to the 2008/09 capex value submitted by Power and Water. Consistent with the approach adopted under the *National Electricity Rules*, no *ex post* optimisation of actual capex is proposed. This provides certainty that investments made in the network will be recovered, and thus provides further incentive for investment and reduces the risk to investors which otherwise would have to be compensated for by a higher allowed rate of return.

5.79 However, the Commission of necessity must assume that the capital expenditure values submitted by Power and Water in its revised proposal are net capex (i.e., gross capex net of any asset donations, contributions or disposals).[28]

5.80 Any capital expenditure that may be required as a result of the recommendations from the Davies Report are best dealt with later – upon application by Power and Water and following a public review by the Commission – in accordance with the provisions of clause 71(c) of the NT Code. This clause empowers the Commission to reset the price cap during a regulatory period if the Commission is satisfied that any initiating spending increases were in the nature of:

> *"…extraordinary developments with respect to any one of the key factors identified in clause 68 [of the Code] which, in the opinion of the regulator [the Commission], were outside the network provider's control"*

[28] The Draft Determination referred to Power and Water's submitted capex series as gross capex. On reflection, the Commission recognises that a more accurate interpretation, reflecting its treatment of the numbers provided by Power and Water, is that the capex series is gross capex net of any asset donations, contributions or disposals ("net capex").

Commission's final decision

5.81 In accordance with clause 6 of Schedule 7 of the NT Code, the Commission approves the estimate of net capital expenditure in 2008/09 provided by Power and Water in its RRP of $56.782 million.

2008/09 return of capital

Requirements of the final methodology decision

5.82 The Commission's Po adjustment model requires Power and Water to show the calculation of its nominal straight-line depreciation on the regulatory asset base.

5.83 The Final Methodology Decision required that, with respect to this annual depreciation expense, the depreciation schedules used must conform with the requirements set out in clause 6.5.5(b) of the *National Electricity Rules*.

Power and Water's initial proposal

5.84 Power and Water's proposed depreciation amount for 2008/09 was $18.0 million.

5.85 The Commission's amended Po adjustment model did not calculate the annual depreciation expense, but allowed Power and Water to determine the values of the annual depreciation expense outside of the model and to input these values into the model for the purposes of determining the 2008/09 building block revenue requirement. This was done on the basis that Power and Water possessed the capacity to calculate regulatory depreciation more accurately on an asset by asset basis.

5.86 As it turned out, because Power and Water used the SKM asset valuation, it reverted to calculating depreciation in the Po adjustment model. This saw Power and Water insert formulae into the Po adjustment model.

5.87 Power and Water explained its calculations as follows:

> *"•* *Depreciation for the 2007-08 year [is calculated] by dividing the opening asset base as at 1 July 2007 by the estimated remaining useful lives of assets as recommended by SKM; and*
>
> • *Depreciation for 2008-09 [is calculated] as comprising depreciation on the capital expenditure during 2007-08 and depreciation on half of the capital expenditure in 2008-09." (p.63)*

5.88 Power and Water justified its approach to determining depreciation as meeting the requirements of clause 6.5.5(b) of the *National Electricity Rules* as follows:

> *"•* *Power and Water's depreciation values reflect the nature of its assets, and category of assets, over their economic lives, as is required by clause 6.5.5(b)(1) of the Rules. This is because it has applied a straight line approach to depreciating its assets;*
>
> • *The sum of the real value of the depreciation that is attributable to any of Power and Water's assets or categories of assets is equivalent to the value at which the asset or category of asset was first included in the regulatory asset base, as is required by clause 6.5.5(b)(2) of the Rules. This is because Power and Water has determined its depreciation values by using:*
>
> *o A straight line approach to depreciating its individual assets;*
>
> *o Values for the existing asset base that were recommended by SKM;*
>
> *o Values for capital expenditure for 2008-09 that are explained and justified in this Regulatory Proposal; and*
>
> *o Remaining and useful asset lives that were determined by SKM.*
>
> • *The economic lives of the relevant assets and the depreciation methods and rates underpinning the calculation of Power and Water's depreciation are consistent with those determined for the same assets on a prospective basis, as is required*

by clause 6.5.5(b)(3) of the Rules. This is because Power and Water has determined its depreciation values by using:

- *A straight line approach to depreciating its individual assets; and*
- *Remaining and useful asset lives that were approved by the Commission and determined by SKM." (pp.63-64)*

Consultant's recommendation

5.89 Based on the roll forward of the $350 million initial RAB value, ACIL Tasman estimated that the nominal straight-line depreciation amount on the 2008/09 opening RAB value to be $16.0 million. [29]

"In calculating this ACIL Tasman used the SKM valuations of remaining life and standard life, assuming that the remaining life at 2002 was simply five years' higher than the remaining life in 2007. New additions received half a year's depreciation charge, based on the standard life of assets for that category – again from the SKM valuation." (p.8)

5.90 In addition to the role played by Power and Water's use of a different initial RAB value, ACIL Tasman summarised the deficiencies in Power and Water's calculation in the following terms:

"…[it] did not separate out depreciation on the rolled forward asset base and new additions each year, and did not clearly demonstrate that the calculations were correct and based on nominal asset values. Some small errors were also identified in the Power and Water calculation." (p.8)

Views in submissions on the initial draft determination

5.91 No views were expressed in submissions regarding the approach proposed in the initial draft determination to depreciation of the regulatory asset base in 2008/09.

Commission's assessment

5.92 The Commission was persuaded that Power and Water under-estimated its nominal straight-line depreciation in the Po adjustment model. This offset to a degree the over-estimation of the depreciation of sunk assets (i.e., pre-2002 assets) when based on the 2007 DORC valuation.

5.93 As shown in Table 5-12, the overall impact of these two adjustments was a 2008/09 return on capital that was 10.8% below the figure proposed by Power and Water in its IRP.

Table 5-12
2008/09 Return of Capital (Depreciation)
Summary of Adjustments

	($'000)
Power and Water proposed annual depreciation	17,978
Adjustment to correct Power and Water's depreciation understatement	2,693
Adjustment to depreciation on revised RAB to reflect $350m valuation at 1 July 2002	-4,640
Adjusted Return of Capital (Depreciation)	**16,031**

Commission's draft decision

5.94 The Commission's draft decision was that it was not satisfied that the IRP as submitted met the requirements established in the Final Methodology Decision in relation

[29] There is a decrease in the 2007/08 straight-line depreciation estimate in the roll forward due to a significant group of assets in the initial $350 million RAB reaching the end of their economic lives in 2007/08.

to the 2008/09 return of capital component. The Commission required the following change to the regulatory proposal before it was prepared to approve any revised regulatory proposal:

Amendment 5-3

5.95 With regard to the annual nominal-terms straight-line depreciation charge in 2008/09 (and the associated series for each of the preceding years in the second regulatory period), the revised proposal must be based on *either*:

- the values set out in Table 5-13 below:

Table 5-13
Commission's Estimates of Depreciation
Second Regulatory Period

($'000)	2004/05	2005/06	2006/07	2007/08	2008/09
Depreciation	15,760	16,661	17,743	14,748	16,031

- *or* values which Power and Water could demonstrate to the Commission's satisfaction were consistent with the November revised Po adjustment model and all related requirements elsewhere in the Draft Determination.

Power and Water's revised proposal

5.96 Power and Water did not accept the values as proposed by the Commission in the Draft Determination for the annual nominal-terms straight-line depreciation expense in 2008/09 of $16.031 million (and the associated series for each of the preceding years in the second regulatory period), and instead proposed alternative values based on the SKM asset valuation.

5.97 Power and Water's revised proposed depreciation amount for 2008/09 was $22.5 million.

5.98 Power and Water used the Commission's November-revised Po adjustment model to calculate the annual depreciation expense for 2007/08 and 2008/09, based on Power and Water's submitted SKM asset valuation.

> *"Power and Water's approach to determining depreciation meets the requirements of clause 6.5.5(b) of the Rules, and the Final Decision Paper, because depreciation has been calculated by the Commission's November 2008 Po Model." (p.71)*

Commission's final assessment

5.99 As shown in Table 5-14, the impact of using the $350 million valuation as at 1 July 2002 rather than Power and Water's submitted SKM asset valuation results in a 2008/09 return of capital that is 31% below the figure proposed by Power and Water in its RRP.

Table 5-14
2008/09 Return of Capital (Depreciation)
Summary of Adjustments

	($'000)
Power and Water proposed annual depreciation	22,492
Adjustment to depreciation on revised RAB to reflect $350m valuation at 1 July 2002	-6,913
Adjusted Return of Capital (Depreciation)	**15,579**

5.100 This 2008/09 return of capital is slightly lower than the return of capital proposed by the Commission in the Draft Determination of $16.031 million, due to a few

minor modifications to ACIL Tasman's roll-forward of the $350m initial RAB value to correct for some small anomalies in the depreciation calculations.[30]

Commission's final decision

5.101 In accordance with clause 66(3) of the NT Code, the Commission determines the series of annual nominal-terms straight-line depreciation over the second regulatory period to 2007/08 to be as set out in Table 5-15:

Table 5-15
Estimates of Nominal Depreciation
Second Regulatory Period

($'000)	2004/05	2005/06	2006/07	2007/08
Depreciation	16,281	17,199	17,153	13,868

5.102 In accordance with clause 66(3) of the NT Code, the Commission determines the estimate of annual nominal-terms straight-line depreciation charge in 2008/09 to be $15.579 million. Of this amount, the Commission determines the estimate of annual depreciation during 2008/09 on assets acquired in that year to be $0.625 million.

2008/09 operating expenditure

Requirements of the final methodology decision

5.103 The Final Methodology Decision required that, with respect to estimated operating expenditure, amounts calculated, determined or estimated must be consistent with:

- the operating expenditure criteria stated in clause 6.5.6(c) of the *National Electricity Rules*;
- the manner used to calculate the X_2 value underlying the X factor as determined by the Commission; and
- Power and Water's approved cost allocation procedures.

5.104 Specifically, the operating expenditure criteria stated in clause 6.5.6(c) of the *National Electricity Rules* require that operating expenditure must reasonably reflect:

- the efficient costs of achieving the operating expenditure objectives (as stated in clause 6.5.6(a) of the *National Electricity Rules*);
- the costs that a prudent operator in the network service provider's circumstances would require to achieve the operating expenditure objectives; and
- a realistic expectation of the demand forecast and cost inputs required to achieve the operating expenditure objectives.

5.105 With regard to whether operating expenditure is prudent or efficient, the Final Methodology Decision also required these matters to be addressed in a manner consistent with the calculation of the X_2 value underlying the X factor that has been determined by the Commission. To this end, the Commission formally requested its TFP advisor GHD Meyrick to take responsibility not only for recommending the X_2 value – see chapter 4 – but also for assessing the proportionate (%) 'efficiency' adjustment necessary to the estimated actual aggregate operating expenditure (for 2008/09) used to calculate the Po

[30] For example, in some instances the depreciation calculation was modified to ensure that once the standard life of an asset had been reached and the asset was completely depreciated, the subsequent annual depreciation values are zero. This modification was made to prevent negative depreciation values.

adjustment factor. The intention of this was to ensure absolute consistency with the finalised X_2 value.

Power and Water's initial proposal

5.106 Power and Water's proposed operating and maintenance expenditure ("opex") estimate for 2008/09 was $57.6 million.

5.107 Power and Water explained this figure in the following terms:

> *"Power and Water's operating and maintenance costs have increased steadily and significantly over the current regulatory control period, as a consequence of several critical cost drivers, being:*
>
> - *Real wages growth, consequential to the changes in Power and Water's 2007-2010 Union Collective Agreement (2007-2010 UCA). In order to attract and retain required skilled personnel in a tight labour market, Power and Water has agreed salaries and allowances in the 2007-2010 UCA. This is a result of an increased demand for employment in the Northern Territory infrastructure, construction and mining sectors by employers which compete for skilled personnel directly with Power and Water;*
> - *Ageing infrastructure – Much of Power and Water's network is now over 30 years old, as it was rebuilt following Cyclone Tracy in 1974. Due to the increasing age of its network, Power and Water is required to invest increasingly to maintain network reliability and security of supply and to prudently address the risks associated with ageing infrastructure located in tropical and arid environments. Power and Water is continuing to develop new asset management procedures and systems to assist it in cost effectively meeting these needs;*
> - *Increasing Asset Base – Growth in forecast load demand is driving the need for significant network investment to meet security of supply and reliability standards, particularly in the Darwin area. Increased capital investment is in turn resulting in higher levels of required operating expenditure. As the network grows through capital investment, the costs of operating and maintaining the network therefore also grows; and*
> - *Rising material and equipment costs – Strong global demand has seen copper, aluminium and steel prices, as well as equipment costs rising well above the CPI. Power and Water notes that price increases of certain equipment/materials have been as much as 80.5% per annum since 2002.*
>
> *The increased operating expenditure requirement between the second regulatory control period and the forecast expenditure for 2008-09 reflects the combined effect of an increased volume of work and higher prices.*
>
> *Despite the higher forecast operating expenditure, the 2008-09 expenditure forecast is both efficient and prudent and meets the required operating expenditure objectives, factors and criteria set out in the Rules." (pp.21-22)*

5.108 Power and Water addressed the requirements of the *National Electricity Rules* in its IRP documentation.

Consultants' recommendations

Opex reasonableness assessment

5.109 The main issues that arose with the opex series provided by Power and Water in its submitted Po adjustment model, which were inadequately or only partly explained in the IRP, were that:

- 2008/09 opex forecasts were significantly higher than the 2007/08 actual opex. For example, Power and Water forecast repairs and maintenance to increase by 24%, raw materials and consumables to increase by 151%, and personnel (direct) to increase by 57% in 2008/09; and
- the time series for certain opex line items showed significant volatility. For example, corporate overheads decreased by 50% in 2005/06, increased by 18% in the following year, were unchanged in 2007/08 and increased by 55% in 2008/09.

5.110 In response to its inquiries, ACIL Tasman subsequently established that the large increase in opex between 2007/08 actuals and 2008/09 forecasts was due mostly to a business restructure. In December 2007, functions performed by Power and Water's Technology Services business unit were transferred to the business units that predominately used the functions.[31]

5.111 The net effect of this re-structure should be minimal, as the increase in networks costs would normally be associated with a commensurate decrease in Networks' transfer pricing expense from Technology Services. However, ACIL Tasman was persuaded that the earlier Service Level Agreement between Networks and Technology Services did not adequately cover the costs of the functions that Technology Services had been performing for Networks, and that Technology Services have been absorbing these costs.

> *"… the inclusion of Tech Services … has internalised an estimated loss of approximately $5 million in the Networks business." (p.12)*

5.112 In the end, ACIL Tasman only recommended an adjustment to Power and Water's 2008/09 opex to correct for the inclusion of Technology Services' employees who were working on System Control in the 2008/09 forecasts. Correcting this reduced the 2008/09 operating expense attributed to Regulated Networks by $0.5 million.[32]

5.113 As a result, ACIL Tasman's view was that Power and Water's actual opex in 2008/09 was expected to be $57.1 million.

5.114 In response to its inquiries, ACIL Tasman was also able to subsequently establish that the volatility in the opex time series data submitted by Power and Water was mainly a consequence of Power and Water's frequent changes to accounting policies:

> *"Generally Power and Water has undertaken a large exercise in trying to organise its financial processes and improve its financial reporting, but frequent changes to accounting policies, lack of continuity of staff, and a fundamental restructure which occurred in December 2007, have all meant that Power and Water is generally not able to produce any time series which are unaffected by some of these effects." (p.11)*

5.115 ACIL Tasman formulated a consistent opex time series for use in determining an efficiency adjustment parameter for the Po model.

5.116 The major adjustments that ACIL Tasman made to Power and Water's opex series were as follows:

- adjustment to time series to re-allocate corporate overheads using the 2008/09 allocation methodology;
- adjustment to include the portion of Technology Services' unfunded loss attributable to Regulated Networks in 2004/05, 2005/06 and 2007/08;[33]
- adjustment to raw materials and consumables used to correct for a system error which was overstating accruals in 2007/08;
- inclusion of transfer pricing expense not included in 2004/05 and 2005/06; and
- removal of a corporate allocation of tax from Networks in 2004/05.

Opex efficiency and prudency assessment

5.117 Of Power and Water's claimed $20.4 million in extraordinary opex due to the NT operating environment conditions, GHD Meyrick regarded $14.1 million of this

[31] The following Technology Services' functions were transferred to the Networks business unit: electrical engineering and testing, electricity metering, controls & communications (SCADA), and projects & procurement for Network's major capital investment projects.

[32] ACIL Tasman, pp.13-14.

[33] In 2006/07, Technology Services' loss was allocated to business units at the end of the financial year.

claimed amount as acceptable. GHD Meyrick's summary table follows, and its detailed explanations can be viewed at pages 19-26 in its report.

Table 2: **PWPN quantified opex due to operating environment conditions, 2008–09**

Factors causing extraordinary opex	*PWPN claim*	*GHD Meyrick acceptance*
1. Materials and spare parts costs	$0	$0
2. Unplanned outages due to wet season weather conditions	$282,350	$86,481
3. Equipment wear and tear due to climatic conditions	$2,034,085	$403,267
4. Vegetation trimming	$2,928,571	$2,928,571
5. Termites	$1,148,552	$1,100,195
6. Bats and Birds	$770,909	$513,939
7. Cyclones and flooding	$1,063,053	$1,063,053
8. Reduction in labour productivity	$1,052,785	$350,928
9. High earth resistivity	$632,411	$632,411
10. Higher costs resulting from inability to recruit staff in some locations	$2,508,000	$342,836
11. Higher labour costs in the Northern Territory	$0	$0
12. Differences in overhead capitalisation	$7,966,200	$6,638,500
Total quantified extraordinary opex	$20,386,916	$14,060,182

5.118 In addition, while Power and Water did not quantify an adjustment for its 'transmission equivalent' operations, GHD Meyrick adjusted Power and Water's opex downwards by 5% in recognition of the extra functions Power and Water performs relative to interstate electricity distribution businesses. This is the same approach adopted in the 2003 benchmarking study but in this case the 5% adjustment is made to total opex and not opex net of the identified operating environment factors. This was equivalent to assuming that the quantified operating environment factors applied only to Power and Water's distribution operations.

5.119 After adjusting for transmission equivalent operations and taking the figure of $14.1 million for operating environment factors presented, GHD Meyrick estimated that the prudent and efficient level of Power and Water's opex for 2008/09 was $39.6 million.

5.120 GHD Meyrick's assessment was therefore that, for Power and Water to reach the same unit opex as the four electricity distribution businesses with customer density closest to Power and Water (assuming those electricity distribution businesses have had no opex partial productivity growth since 2003, and after allowing for Power and Water's adverse operating conditions and transmission equivalent operations), Power and Water would have to reduce its unit opex by 26.9%.

5.121 In translating such a performance gap judged to be under management control into 'X' factors for use in CPI–X price cap regulation, it is necessary to form a view on the timeframe required for the performance gaps to be removed. GHD Meyrick argued that:

> *"If the timeframe is set too short there is scope for the electricity distribution business to be placed under excessive financial stress and for service quality to drop substantially as maintenance programs are terminated to meet overly onerous annual cost reduction targets. This runs the risk of consumers seeing quick price reductions but at the expense of receiving a degraded product in the future.*
>
> *Conversely, setting the timeframe too long may place little pressure on the business to reduce costs and see consumers paying more than they should be for many years. This would be contrary to the principles of effective regulation which require that regulated prices be based on efficient forward looking costs, with any inefficient costs being to the cost of shareholders, not network users.*

> *In capital intensive infrastructure industries like electricity supply with relatively long–lived assets, sufficient time has to be allowed to optimise assets in synchronisation with reductions in opex. Meyrick (2003a) identified a ten year timeframe as being likely to be a reasonable timeframe for this to occur in. Any shorter than this was thought to place system integrity and service quality at risk if relatively large reductions in opex were being contemplated. Any longer than this was thought to be overly generous to the electricity distribution business.*
>
> *[For the 2004 Reset, the Commission] adopted a 10 year timeframe and decided to allocate half of the 20 per cent opex efficiency gap identified in Meyrick (2003a) to the X_2 factor with the remaining half being accounted for in the initial P_0 price change. After some rounding down, an X_2 of 0.25 per cent was set to account for 10 percentage points of the then identified 20 per cent opex efficiency gap over 10 years.*
>
> *While 5 years of the original 10 year adjustment period has now passed, GHD Meyrick believes it is appropriate to retain a 10 year adjustment timeframe from the start of the third regulatory period given that Power and Water has undertaken some restructuring during the second regulatory period and given the new information regarding previous understatement of some allocated overhead costs. Consequently, GHD Meyrick recommends retaining the conservative X_2 factor of 0.25 per cent to account for 10 percentage points of the identified 26.9 per cent opex efficiency gap." (p.33)*

5.122 It was therefore GHD Meyrick's recommendation that the remaining 16.9 percentage points of the identified efficiency gap be incorporated in the Po adjustment factor to be applied at the start of the third regulatory period.

Commission's initial assessment

5.123 After due consideration, in its initial draft determination the Commission indicated it accepted ACIL Tasman's recommendation that Power and Water's actual opex in 2008/09 was expected to be $57.1 million.

5.124 In addition, Power and Water's application of the Po adjustment model calculated an amount of $0.3 million as being related to 'benchmark' debt raising costs, which (consistent with the AER's approach) was included as an opex line item. The cost of this item is driven by the following formula:

2008/09 opening RAB

multiplied by the Debt raising cost benchmark (estimated by AER)

multiplied by the Debt funding proportion (used in the calculation of the WACC).

5.125 This proposed amount was based on the 2007 DORC valuation of Power and Water's network assets rather than the $350 million initial RAB value. When calculated based on the $350 million initial RAB value, the 'benchmark' cost of raising debt decreases from $0.3 million to $0.2 million. This decreases total opex by 0.13%.

5.126 In addition, after due consideration, in its initial draft determination the Commission indicated it was willing to accept GHD Meyrick's 16.9% efficiency adjustment factor. Applying this efficiency adjustment factor to the adjusted actual opex in 2008/09 of $57.1 million results in the Commission's estimate of efficient operating expenditure for 2008/09 of $47.365 million.

5.127 The resultant adjustments to the figure proposed by Power and Water are as summarised in Table 5-16.

Table 5-16
2008/09 Operating Expenditure
Summary of Adjustments

	($'000)
Power and Water proposed Operating Expenditure	57,570
Accuracy adjustment – correction of an error resulting from restructure estimates	-500
Decrease in debt raising costs due to revised RAB	-72
Efficiency adjustment (16.9%)	-9,633
Adjusted Efficient Operating Expenditure	**47,365**

Views in submissions on the initial draft determination

5.128 In its submission, Power and Water advised that it had revised upwards its 2008/09 opex estimate to $66.9 million.

> *"The UC's Po Model had total costs of $57,570k for 2009, a difference of $9,326k to the above figure of $66,896. The difference is Cost of Sale expense of $326k which was excluded from the Po and $9 million of costs in relation to the Casuarina Zone Substation rehabilitation." (footnote 5 to Power and Water's revised 20-year forecast spreadsheet [confidential])*

5.129 Power and Water considered that the Commission should reassess both its 2008/09 opex estimate of $57.0 million and the efficiency adjustment factor of 16.9% applied to the 2008/09 opex estimate.

5.130 Power and Water put forward several lines of argument in support of this conclusion.

5.131 First, Power and Water argued that that the process adopted by the Commission for assessing Power and Water's opex is not consistent with the Final Methodology Decision and the *National Electricity Rules*.

> *"Power and Water does not consider that the process the Commission has adopted for assessing Power and Water's operating and maintenance expenditure is consistent with paragraphs 2.24 and 5.51 of the Commission's Final Decision, and 6.5.6(c), 6.5.6(e) of the Rules. In particular, the Commission has restricted its assessment of operations and maintenance costs to that required by 6.5.6(e)(4), which is only one element in the suite of matters that the Commission should take into account." (p.4)*

5.132 Secondly, Power and Water argued that a "bottom-up" assessment of opex efficiency was more accurate than "top down" approach.

> *"…GHD Meyrick has assessed Power and Water's efficient 2008-09 operating expenditure on the basis of a "top down" (benchmarking) approach, and has not undertaken any more detailed "bottom up" assessment of Power and Water's 2008-09 operating expenditure. This means that GHD Meyrick has recommended an efficient level of operating expenditure without any understanding of what Power and Water intends to spend this money on, or why" (p.21)*

5.133 Thirdly, Power and Water claimed that benchmarking has well documented shortcomings, and therefore should not be used as the sole approach to determine Power and Water's efficiency.

> *"There is extensive regulatory documentation acknowledging the shortcomings of benchmarking, which support benchmarking being part of a broader suite of assessment tools rather than the sole determinant of efficiency." (p.28)*

5.134 In support of this view, Power and Water cited the following arguments put forward by ActewAGL in its recent Regulatory Proposal to the AER (as summarised by Power and Water):

" • The conclusions drawn from benchmarking are limited because businesses have different characteristics, requirements, cost structures and cost drivers and operating environments;

- *Even when adjusting for the "unique" business differences, benchmarking cannot provide an entire method of determining efficiency. This is because normalisation is subjective requiring identification and quantifying the impact of the unique attributes;*
- *Comparing comparatively small DNSPs with much larger DNSPs "will inevitably give rise to flawed outcomes" and financially disadvantage smaller DNSPs by preventing them from the opportunity to recover efficient and prudent costs; and*
- *There are no single indicator that provides a meaningful benchmark outcome." (p.29)*

5.135 Fourthly, Power and Water claimed that there are several issues with GHD Meyrick's calculation of the benchmarking levels that place into doubt the accuracy of its findings.

"There are several issues with the calculation of the benchmarking levels by GHD Meyrick, that in Power and Water's view, dilute the accuracy of the outcomes. These issues are that:

- *The process whereby GHD Meyrick has established "same year" operating costs does not reflect the current differentials in operating and maintenance costs between these companies in 2008-09;*
- *The four comparators that GHD Meyrick has chosen have been chosen without any consideration of why these companies are similar to Power and Water – except that they appear to be "regional"; and*
- *The way that GHD Meyrick has constructed the multilateral unit opex index is not transparent and has been presented in a manner which does not allow Power and Water to make an informed submission." (pp.21-22)*

5.136 Fifthly, Power and Water claimed that its own benchmarking of its opex against other businesses does not support GHD Meyrick's findings.

"When compared with simple benchmarking outcomes based on publicly available data for the same businesses as GHD assessed, Power and Water's operating expenditure for 2008-09 does not appear markedly higher than in other jurisdictions." (p.22)

5.137 In conclusion, Power and Water summarised that:

"…in accepting GHD Meyrick's recommendation in relation to the efficiency adjustment factor to apply to Power and Water's 2008-09 operating expenditure forecast, per paragraph 5.82 of its Draft Determination the Commission has not assessed and considered:

- *What Power and Water's operating expenditure forecast relates to including the services and activities required to operate and maintain its network in the third regulatory control;*
- *Why Power and Water's 2008-09 operating expenditure forecast is required in order to provide standard control services; and*
- *The impact of approving such a large reduction in Power and Water's 2008-09 operating expenditure. In particular the impact on service standards, quality of supply, or reliability in the third regulatory control period. This is particularly significant considering that expenditure relating to:*
  - *o Repairs and Maintenance accounts for around one third of Power and Water's total forecast 2008-09 operating expenditure (per its IRP); and*
  - *o Personnel Direct accounts for around 45% of Power and Water's total forecast 2008-09 operating expenditure (per its IRP).*

This means that cutting back on expenditure may potentially have serious performance, reliability, and system security implications for Northern Territory electricity customers." (p.28)

5.138 In its submission, the NTMEU also considered that the Commission should reassess its proposed estimates of actual operating expenditure for the second regulatory period, and the proposed efficiency adjustment factor of 16.9% applied to the 2008/09 opex estimate. However, the NTMEU argued that the opex estimates appear to be excessive, and that Power and Water's opex 'allowance' should be further reduced.

5.139 The NTMEU put forward several lines of argument in support of this conclusion.

5.140 First, the NTMEU claimed that GHD Meyrick's assessment of Power and Water's adverse operating conditions and transmission equivalent operations was "excessively conservative", and questioned the extent of the allowances given to Power and Water by GHD Meyrick.

> *"…NTMEU is not convinced that PW [Power and Water Network] operational conditions are significantly worse that the other DBs when the unique features of each are accommodated. Further, the assumption that providing transmission services is more arduous than providing distributions services, is not supported by the facts and has not been demonstrated to be so." (p.26)*

5.141 Also, the NTMEU claimed that GHD Meyrick's assessment:

> *"…fails to recognise that PW has some advantages compared to the benchmark DBs and that other DBs not only suffer from many of the same issues but also have their unique issues causing premiums too." (p.24)*

5.142 The NTMEU provided the following examples in support of these claims:

> *" • PW claims that its vegetation trimming is much more than other DBs face. What has not been assessed is a realistic view on the vegetation clearing required in other regions. Both Powercor and SP Ausnet have massive clearing problems in the state forests, as do Ergon and Country Energy. In particular, Ergon faces probably a greater challenge than does PW, as significant areas of PW power lines are in rain shadow areas whereas both Ergon and Country Energy face large tracts in high growth tropical rain forest areas. Whilst not disagreeing that PW does have a vegetation clearance problem, it is disputed that this is excessively greater than for the benchmark businesses.*
>
> - *The incidence of bats and birds is similar to that in northern Queensland and even into northeastern NSW. Whilst bats and birds do impact the NT, in the southern states a similar degree of shorts occurs due to possums. Thus while the issue id legitimate, it needs to be balanced by realism that similar outcomes do occur in other regions but perhaps from other causes.*
> - *Cyclones do impact Queensland to a similar extent as in the NT and even northern NSW suffers perhaps as much. Therefore the issue is not unique to the NT. In the southern states the EDBs suffer from snow falls which have a considerable impact.*
> - *It is noted that there are high travel costs to service Tennant Creek and Alice Springs. In fact, the PW staff are not faced with the extraordinary travel requirements experienced by Country Energy and Ergon staff. These staff would also point out that their productivity was just as severely impacted by adverse weather as PW staff. It is acknowledged that this is not a feature for Powercor and SP Ausnet, although SP Ausnet would contend that the time lost in the Latrobe Valley would equate to that in the NT" (pp.26-28)*

5.143 Secondly, the NTMEU claimed that the amount of opex allocated to differences in overhead capitalisation by Power and Water compared to its peers in GHD Meyrick's assessment of Power and Water's operating environment claims was excessive.

> *"Meyrick refers to the corporate cost allocation impact on PW. It is immaterial how corporate costs are allocated, if these costs are reasonable. To allege that overheads in other regions are allocated to capital is not correct – these costs can only be allocated to capital if they are related to actual capital projects, and it has been noted that the ATO has queried this practice. If some overheads are dedicated to capital projects then this increases the capex, and therefore a careful analysis is required to ensure that the PWC practice is not just an excuse to increase opex and recover additional costs in capex. But it is the quantum of the claim that astounds NTMEU. PW alleges that $8m of overheads are transferred from capex to opex – this is 14% of the total opex budget! Yet the capex budget is ~$50m pa implying that there has been a 16% transfer of overhead costs from capex to opex. It is most unlikely that an amount anything approaching this share is uniquely transferred from the capex budget to the opex budget as a result of overhead costs, as overheads for capital works generally do not exceed ~8%." (p.28)*

5.144 Thirdly, the NTMEU considered that the assessment of Power and Water's opex 'reasonableness' was deficient.

> *"…there has been no assessment of the Po increases in opex other than a detailed examination of the transfer of the Tech Services cost, and even there, there was no assessment whether these cost are, in themselves, efficient, and whether all of the costs are attributable to network operation. In this regard, NTMEU is concerned that there has been an internal transfer of costs into the regulated business which gives the PWC "competitive" business units an unfair advantage." (p.26)*

Commission's further assessment

5.145 The Commission has been criticised:

- on the one hand, by Power and Water for judging Power and Water's operating expenditure inefficiency too harshly; and
- on the other hand, by the NTMEU for under-estimating the extent of Power and Water's operating expenditure inefficiency.

5.146 Clearly, they both can't be right.

5.147 The Commission's task is to balance a range of opposing considerations, in accordance with objectives and criteria laid down in the NT Code and, where applicable, the *National Electricity Rules*.

5.148 The Commission cannot agree with the NTMEU that it has been soft on Power and Water. The NTMEU's specific criticisms of the Commission's exercise of some 'conservatism' and acceptance of certain aspects of Power and Water's starting-point opex fails to acknowledge the extent to which the Commission's approach results in a substantial efficiency adjustment.

5.149 Power and Water's criticisms appear more substantive. However, further discussions with the Commission's expert consultant (GHD Meyrick), and further consideration of the detail of the issues raised by Power and Water, reinforced the Commission's approach and judgments as revealed in the initial draft determination.

5.150 In summary, the Commission was satisfied that the GHD Meyrick analysis was robust enough in the circumstances as a basis for the Commission to conclude that Power and Water is not efficient. Notwithstanding Power and Water's arguments in its submission, the Commission maintained this view for a range of reasons as summarised below.

5.151 Power and Water's arguments for TFP to be applied only in a 'steady state', and not where large increases in future expenditure and consequently a large Po are forecast, fail to consider how such circumstances are being accommodated in the overall specification of the regulatory regime.

5.152 Regarding the relative merits of bottom-up benchmarking (Power and Water's favoured approach) and top-down benchmarking (GHD Meyrick's approach), the Commission considered that bottom-up benchmarking had even more shortcomings than the top-down approach. Notably, under the detailed bottom-up approach, a regulator faces asymmetric information problems, and these assessments rely heavily on engineering judgments and are not reproducible.

5.153 The Commission considered that the four comparators chosen by GHD Meyrick seemed appropriate, in particular because:

- these four businesses have relatively similar customer densities and energy densities;
- compared with Power and Water's 8.6 customers/km, the four comparators have customer densities of 3.9, 4.4, 7.4 and 12.5 customers/km; and
- Power and Water has the second highest energy density among this group.

5.154 With respect to Power and Water's other specific criticisms, the Commission was satisfied that GHD Meyrick's methodology:

- apart from an update to the weights used, it is largely identical to that used in the 2003 report prepared for Power and Water and the Commission, and the updated weights used in the index are disclosed in section 3.1 of the GHD Meyrick report;
- the multilateral index method that it relies on is well established, has been used in other Australasian jurisdictions, and involves no unusual assumptions;
- the way the multilateral unit opex index is constructed is explained in section 3.1 of the GHD Meyrick report, and also in the referenced 2005a report and the 2003 report for Power and Water and the Commission where exactly the same procedure was used; and
- the method used for adjusting (or normalising) for the 'unique' business differences is more objective and transparent than most similar methods, and relies on information supplied by Power and Water itself.

5.155 The Commission considered the GHD Meyrick approach to also be, if anything, conservative (as the NTMEU's criticism warns) to the extent that:

- by taking the average performance of four comparators as the benchmark, GHD Meyrick was not pushing Power and Water to the frontier but rather taking a conservative (or prudent) approach; and
- since Power and Water has both the second highest customer density and second highest energy density by comparison with the chosen (four) peer group, it should not be disadvantaged by the choice of peer group.

5.156 Consistent with the *National Electricity Rules'* emphasis on the efficiency and prudency of total forecast operating expenditure, the Commission was satisfied that the GHD Meyrick exercise:

- recognised that network businesses have different characteristics, requirements, cost structures, cost drivers and operating environments, which is precisely why GHD Meyrick sought to identify, quantify and allow for the unique operating environment factors facing Power and Water;
- provided Power and Water with the opportunity to provide with information on how it might be different from other network businesses; and
- relied on quantitative operating environment effect estimates supplied by Power and Water.

5.157 As to GHD Meyrick's database based on benchmarking studies undertaken by Meyrick over time, the Commission accepted GHD Meyrick's assertions that:

- GHD Meyrick has sought to create a consistent database;
- it has been purpose-compiled for benchmarking and considerable time was spent making the data as comparable and consistent as possible;
- while it is not in the public domain, it endeavours to pull together robust, consistent and reliable long term information available about a broad range of electricity distribution network costs and operational parameters; and
- it has to remain strictly confidential unless all participants agreed to its release.

5.158 Contrary to Power and Water's inference or assertions, the Commission also accepted that:

- as to the lack of explanations by GHD Meyrick, the process involved in the multilateral unit opex analysis is clearly explained, and references are given to other reports that also explain the process in more detail;
- as to gaps in the data set used, particularly in relation to the output data set and whether and how these have been addressed, there are no such gaps in the dataset; and

- regarding the findings of Power and Water's own benchmarking analysis, that analysis in fact reveals very similar results to the GHD Meyrick analysis. The opex/km and opex/GWh results present in Attachment 1 to Power and Water's submission are not dissimilar to the corresponding GHD Meyrick results, but Power and Water chose not to present opex/customer where it performs worst.

5.159 In some important respects, the Commission considered Power and Water's submission to be highly selective:

- from GHD Meyrick's report, with much of the information which Power and Water claims to be missing being there if it choose to look;
- from the AER's stated approach to determining efficiency and prudency of expenditure forecasts in its Statement of Regulatory Principles[34], with the three step approach quoted by Power and Water in fact relating to capex, not opex; and
- from among performance indicators, where it has chosen not to present opex/customer ratios where it performs worst and which receive nearly half the weight in the indexing procedure.

5.160 For these reasons taken together, the Commission was not persuaded to shift from its stance regarding the degree of Power and Water's operating inefficiency which was put forward in the initial draft determination.

Commission's draft decision

5.161 The Commission's draft decision was that it was not satisfied that the IRP as submitted met the requirements established in the Final Methodology Decision in relation to the 2008/09 efficient opex amount. The Commission required the following changes to the regulatory proposal before it was prepared to approve any revised regulatory proposal:

Amendment 5-4

5.162 With regard to the estimate of actual operating expenditure ("opex") in 2008/09 (and the associated second regulatory period actual opex series), the revised proposal must be based on *either*:

- the values set out in Table 5-17 below:

Table 5-17
Commission's Estimates of Actual Opex
Second Regulatory Period

($'000)	2004/05	2005/06	2006/07	2007/08	2008/09
Actual opex	41,710	43,215	48,756	56,050	56,998

- *or* values which Power and Water could demonstrate to the Commission's satisfaction were consistent with the November revised Po adjustment model and all related requirements elsewhere in the Draft Determination.

Amendment 5-5

5.163 With regard to the 'return of efficient/prudent operating expenditure' component of the building blocks calculation for 2008/09, the revised proposal must be based on *either*:

- a percentage factor of 16.9% which is applied to actual opex for 2008/09 in the November revised Po adjustment model in order to arrive at the prudent and efficient level of opex for 2008/09;

[34] ACCC, *Statement of Principles for the Regulation of Electricity Transmission Revenues*, December 2004.

- *or* a percentage factor which Power and Water could demonstrate to the Commission's satisfaction was an appropriate percentage based on additional information and estimates on the adverse operating conditions faced by Power and Water relative to its peers.

Views in submissions on the Draft Determination

5.164 In its submission on the Draft Determination, the NTMEU expressed its concern that the estimate of Power and Water's 2008/09 operating expenditure may no longer be appropriate due to the recent decline in the global and domestic economic situation, and that this should be reflected in the Commission's final determination on this value.

> *"Since the Draft Decision was prepared, it is quite clear that the overall economic situation in Australia and overseas, has changed dramatically. …*
>
> *…As a result, the UC is in the process of allowing increases in Po and the X factors that are no longer appropriate and will therefore be wildly incorrect. …*
>
> *…An associated aspect of the UC incorporating cost increases which are clearly superseded by the global economic downturn, is that network charges will increase by more than a fair and reasonable amount. This in turn will add to consumer costs that may not be able to be managed in the current economic environment, causing stress on trade exposed and commercial businesses, and tourism. The outcome of that stress could be closures or scaling back, with resultant job losses and revenue reductions to the Territory.*
>
> *The UC is no doubt aware of the rapidly declining economic conditions, and as the outcome of its review does not apply for another 5 months or more, it has the obligation to reassess its draft decision in light of unprecedented change in the global and domestic economic situation and outlook, and make the appropriate adjustments in order to deliver fair and reasonable and efficient outcomes in this pricing review.*
>
> *The NTMEU would see that a reassessment of the current economic conditions would lead to a significant reduction in the value of Po (causing a reduction in the year 1 new network charges) and increases in the X factors (causing a reduction over time of network charges)." (pp.2-3)*

Power and Water's revised proposal

5.165 Power and Water did not accept the values as proposed by the Commission in the Draft Determination for the estimate of actual operating expenditure ("opex") in 2008/09 of $56.998 million (and the associated second regulatory period actual opex series), and instead proposed alternative values.

5.166 Power and Water's proposed opex estimate for 2008/09 was $54.9 million.

> *"This amount differs from the amount proposed by the Commission in Amendment 5-4 of $56.998 million. This is due to Power and Water updating its forecasts for 2008-09, resulting in a slight decrease due to a revision in allocated corporate overheads." (p.26)*

5.167 Power and Water noted that any operating expenditure that may be required as a result of the recommendations from the Davies Report had not been included in its opex estimate:

> *"Power and Water has not included any operating expenditure that may be required as a result of the recommendations in the Davies Inquiry. It has not been included because paragraph 5.57 of the Draft Determination stated these costs would be dealt with by a cost pass through application in the third regulatory period." (p.27)*

5.168 Power and Water also did not accept the Commission's opex efficiency adjustment factor of 16.9% applied to actual opex for 2008/09 in order to arrive at the prudent and efficient level of opex for 2008/09.

5.169 Power and Water proposed an opex efficiency adjustment factor of 0%.

> *"Power and Water proposes an alternative efficiency factor of zero. It proposes this because the percentage proposed by the Commission cannot be implemented by Power and Water without it materially reducing its standards of service and significantly reducing the reliability and security of the network.*

Power and Water is concerned with the way in which the Commission and its consultants have assessed the efficiency factor to be applied to the 2008-09 operational expenditure. Principally, Power and Water does not consider that such a significant reduction can be supported given the Commission's consultant has neither assessed nor sought to assess either the need for Power and Water's specific expenditure, the extent to which the expenditure is required, and the operational and practical implications of applying the recommended reduction. Power and Water considers that an important part of an up-front efficiency factor is that it be achievable. It is not clear how the Commission's proposed factor is achievable.

In addition, it would seem that any assessment of operating expenditure efficiency would need to consider the recommendations from the Davies Inquiry. Any remedial works recommended by the Davies Inquiry will have implications for Power and Water's forward looking operational expenditure profile." (p.52)

Commission's final assessment

5.170 The Commission accepts Power and Water's revised actual opex in 2008/09 of $54.9 million.

5.171 In addition, Power and Water's application of the Po adjustment model calculated an amount of $0.3 million as being related to 'benchmark' debt raising costs, which (consistent with the AER's approach) was included as an opex line item. The cost of this item is driven by the following formula:

2008/09 opening RAB

multiplied by the Debt raising cost benchmark (estimated by AER)

multiplied by the Debt funding proportion (used in the calculation of the WACC).

5.172 This proposed amount was based on the SKM valuation of Power and Water's network assets rather than the $350 million initial RAB value. When calculated based on the $350 million initial RAB value, the 'benchmark' cost of raising debt decreases from $0.29 million to $0.22 million. This decreases total opex by 0.1%.

5.173 The Commission does not accept Power and Water's proposed opex efficiency adjustment factor of 0%. Applying the efficiency adjustment factor 16.9% to the 2008/09 opex results in the Commission's estimate of efficient operating expenditure for 2008/09 of $45.580 million.

5.174 The resultant adjustments to Power and Water's proposed 2008/09 opex estimate are as summarised in Table 5-18.

Table 5-18
2008/09 Operating Expenditure
Summary of Adjustments

	($'000)
Power and Water proposed Operating Expenditure	54,920
Decrease in debt raising costs due to revised RAB	-70
Efficiency adjustment (16.9%)	-9,270
Adjusted Efficient Operating Expenditure	**45,580**

5.175 Any operating expenditure that may be required as a result of the recommendations from the Davies Report will be dealt with later – upon application by Power and Water and following a public review by the Commission – in accordance with the provisions of clause 71(c) of the NT Code. This clause empowers the Commission to reset the price cap during a regulatory period if the Commission is satisfied that any initiating spending increases were in the nature of:

"…extraordinary developments with respect to any one of the key factors identified in clause 68 [of the Code] which, in the opinion of the regulator [the Commission], were outside the network provider's control"

Commission's final decision

5.176 In accordance with clause 66(3) of the NT Code, the Commission determines the estimate of actual operating expenditure ("opex") in 2008/09 (and the associated second regulatory period actual opex series) to be as set out in Table 5-19:

Table 5-19
Estimates of Actual Opex
Second Regulatory Period

($'000)	2004/05	2005/06	2006/07	2007/08	2008/09
Actual opex	41,710	43,215	48,756	56,050	54,850

5.177 In accordance with clause 66(3) of the NT Code, the Commission determines the opex efficiency adjustment factor to be applied to actual opex for 2008/09 in order to arrive at the prudent and efficient level of the 'operating expenditure' component of the building blocks calculation for 2008/09 to be 16.9%. The Commission determines that the resultant estimate of prudent and efficient opex for 2008/09 is $45.580 million (=54.850*16.9%).

2008/09 actual revenue

Requirements of the final methodology decision

5.178 The Final Methodology Decision required that, with respect to actual annual revenue:

- the amounts calculated, determined or estimated must be consistent with the NT Code's pricing principles and the requirements of the Final Methodology Decision;
- the estimated annual revenue being raised from relevant network tariffs during the final year of the second regulatory period (2008/09) is to be derived from existing tariffs relating to standard control services;
- estimates of the volumes of standard control services expected to be sold in 2008/09 must be 'realistic expectations' consistent with the meaning given to this term by clause 6.5.6(c)(3) of the *National Electricity Rules*; and
- non-sales revenue network items to be excluded from measuring the efficient revenue collections are those that recover costs aside from those included in the building block analysis. All on-going non-sales revenues which are clearly a substitute for sales revenues should be included.

Power and Water's initial proposal

5.179 Power and Water's proposed actual revenue for 2008/09 was $76.0 million.

5.180 Power and Water stated that:

"This estimate has been determined on the basis of:

- *Power and Water's existing network tariffs for 2008-09 for the equivalent of its standard control services, as required by paragraph 5.59 of the Final Decision Paper; and*
- *Power and Water's 'realistic expectations' of the volumes of the equivalent of standard control services that it expects to sell in 2008-09, consistent with the meaning given to this term by clause 6.5.6(c)(3) of the Rules, as required by paragraph 5.60 of the Final Decision Paper.*

Power and Water also confirms that:

- *All estimated revenue derived from the capital and operating costs that form part of the building block analysis is included in the associated annual revenue collections, as is required by paragraph 5.61 of the Final Decision Paper; and*

- *Non-sales revenue network items that recover costs aside from those included in the building block analysis for standard control services (i.e. alternative control services provided to retail, developers and customers) have been excluded from the 2008-09 expected annual revenue. All on-going non-sales revenues which are clearly a substitute for sales revenues have been included. This therefore meets the requirements of paragraph 5.62 of the Final Decision Paper.*

In addition, as required by clause 2.24 of the Final Decision Paper, Power and Water confirms that its estimate of annual revenue for 2008-09 is consistent with the pricing principles in the Access Code, as its network tariffs for 2008-09 have been developed consistent with these pricing principles." (pp.65-66)

Consultant's recommendation

5.181 ACIL Tasman confirmed that:

"[Power and Water's] forecast is based on the Networks Transfer Pricing Model – a model used by Power and Water to forecast intercompany charges. For the past history it would have been more appropriate to use actual revenue rather than revenue per a forecast model.

We note that by reviewing the past two years' history one can see that the network pricing model has consistently under predicted the sales revenue attributable to Regulated Networks. Although we are led to believe the model is in nominal terms, the extent of the under prediction seems to approximate one year's movement in the CPI index." (p.16)

5.182 ACIL Tasman's table providing a comparison between Power and Water's actual and forecast network revenue follows:

Table 10 **Comparison of actual and forecast revenues in Networks**

	2006/7	2007/8	2008/9
Regulated - Non contestable	54,268	56,215	58,264
Regulated – Contestable	16,365	17,110	17,674
Total - Regulated Networks	**70,634**	**73,325**	**75,938**
Actual - Regulated Networks	**72,873**	**77,457**	
Difference	**3.2%**	**5.6%**	

Data source: Networks Transfer Pricing Model

Views in submissions on the initial draft determination

5.183 No views were expressed in submissions regarding the approach proposed in the initial draft determination to the assessment of actual network revenue in 2008/09.

Commission's initial assessment

5.184 The Commission accepted ACIL Tasman's assessment that Power and Water's forecast of network sales revenue in 2008/09 was likely to be understated by around 5%.

5.185 The Commission undertook its own analysis of the network sales revenue it would expect Power and Water to earn under the approved Network Tariff Schedules. That analysis is summarised in Table 5-20.

Table 5-20
Commission's Estimates of Actual Revenue
Second Regulatory Period

($'000)	2003/04	2004/05	2005/06	2006/07	2007/08	**2008/09**
CPI		2.77%	2.34%	2.67%	3.54%	**2.33%**
Price cap index (CPI-X+Po)		103.569	92.134	92.699	94.060	**94.329**
annual growth in quantity (GWh)[a]		1.20%	2.24%	1.76%	2.79%	**1.77%**
Predicted sales revenue	74,716 [b]	79,504	72,312	74,033	77,425	**79,797**
Non-sales revenue[c]		94	94	94	998	**196**
Total revenue		79,598	72,406	74,127	78,423	**79,994**

(a) GWh have been used as a proxy for quantity, as revenue from energy-based tariffs comprises over 80% of total revenue
(b) Actual revenue earned by Power and Water in 2003-04
(c) Non-sales revenue includes items that recover costs included in the building block analysis. This includes miscellaneous charges revenue, as costs relating to this item are included in the opex amount. The 2004/05 and 2005/06 amounts are unknown, and have been set equal to the 2006/07 amount.

5.186 Using these revenue figures resulted in estimated actual revenue in 2008/09 which was some 5% above Power and Water's proposed amount as summarised in Table 5-21:

Table 5-21
2008/09 Actual Revenue[a]
Summary of Adjustments

	($'000)
Power and Water proposed Actual Revenue	76,034
Under-estimation of revenue	3,960
Adjusted Actual Revenue	79,994

(a) Includes certain non-sales revenue as well as all sales revenue.

Commission's draft decision

5.187 The Commission was not satisfied that the IRP as submitted met the requirements established in the Final Methodology Decision in relation to the 2008/09 actual revenue amount. The Commission required the following change to the regulatory proposal before it was prepared to approve any revised regulatory proposal:

Amendment 5-6

5.188 With regard to the estimate of actual revenue in 2008/09 (and the associated second regulatory period actual network revenue series), the revised proposal must be based on *either*:

- the values set out in Table 5-22 below:

Table 5-22
Commission's Estimates of Actual Revenue[a]
Second Regulatory Period

($'000)	2004/05	2005/06	2006/07	2007/08	2008/09
Actual revenue	79,598	72,406	74,127	78,423	79,994

(a) Includes certain (allowable) non-sales revenue as well as all sales revenue

- *or* values which Power and Water could demonstrate to the Commission's satisfaction were consistent with the November revised Po adjustment model and consistent with all related requirements elsewhere in the Draft Determination.

Power and Water's revised proposal

5.189 Power and Water accepted the values as proposed by the Commission in the Draft Determination for actual revenue in 2008/09 of $79.994 million.

Commission's final decision

5.190 In accordance with clause 66(3) of the NT Code, the Commission approves the estimate of actual revenue in 2008/09 provided by Power and Water in its RRP (and the associated second regulatory period actual network revenue series) as set out in Table 5-23:

Table 5-23
Estimates of Actual Revenue[a]
Second Regulatory Period

($'000)	2004/05	2005/06	2006/07	2007/08	2008/09
Actual revenue	79,598	72,406	74,127	78,423	79,994

(a) Includes certain (allowable) non-sales revenue as well as all sales revenue.

Po adjustment factor

Requirements of the final methodology decision

5.191 The Final Methodology Decision required Power and Water's regulatory proposal to include a proposed Po adjustment factor to apply to the weighted average of network tariffs in the final year (2008/09) of the second regulatory period for standard control services.

5.192 In order to ensure that efficient costs and revenues are aligned, the size of any Po adjustment was to be determined by an *ex post* building block assessment of Power and Water's 2008/09 network costs and revenues, calculated as follows:

$$Po = (R^* - R)/R$$

where:

R* is the estimated total efficient cost of Power and Water supplying standard control services in 2008/09 (in $ millions); and

R is the estimated total revenue derived by Power and Water from the existing prices applying to standard control services in 2008/09 (in $ millions).

Power and Water's initial proposal

5.193 After correcting for the error in the Commission's Po model (discussed in chapter 4), Power and Water's proposed Po adjustment factor was 61.4%.

5.194 The calculation of this proposed Po value is summarised in Table 5-24.

Table 5-24
Power and Water's Proposed Po Adjustment Factor

Building block component	Power and Water's proposal 2008/09 ($'000)
Return on Opening Capital	63,334
plus Return on New Capital	1,989
plus Return of Capital (Depreciation)	17,978
less Holding Gains	-18,187
plus Efficient Operating Expenditure	57,570
Total Required Revenue	122,684
Estimated Revenue	76,034
Proposed Po adjustment factor	**61.4%**

5.195 Power and Water acknowledged that its proposed Po adjustment factor implied a very significant increase in network tariffs.

> *"Once approved, there will be a significant increase in weighted average prices, caused by two further factors.*
>
> *Firstly, Power and Water's electricity network capital and operating expenditure in 2008-09 is much larger than in 2003-04 when the last Po was established. It has become more expensive per unit to offer network services in the Northern Territory over the second regulatory control period, both because the network has grown faster than energy use and also because the costs of sourcing the inputs for these services (both labour and capital) have increased significantly.*
>
> *Secondly, and more importantly, it is now clear that the Po and weighted average prices set in 2004 were too low, and that there has been a widening gap between Power and Water's prudent costs and the network prices allowed by the Commission. This is because the Commission's 2004 Final Determination:*
>
> - *established a Total Factor Productivity (TFP) methodology to derive allowable revenue which did not take account of (then) future costs, despite forecasts available at that time; and*
> - *applied benchmarking studies that aggressively reduced the allowed operations and capital expenditure costs to less than Power and Water was actually and efficiently spending.*
>
> *Power and Water's prudent expenditure in both capital and operating terms, in contrast, increased significantly faster than the Determination. Consequently a real increase in the weighted average tariff is now required." (pp.2-3)*

5.196 Power and Water further argued that the very significant Po adjustment factor which it had proposed:

> *"…is due to a significant divergence between the costs incurred in supplying services, and those recovered through network tariffs as measured by the Commission's Po Adjustment Model…. [It is] clear that:*
>
> - *The issues which have given rise to such a large Po were reasonably predictable at the time of the 2004 Reset;*
> - *The Commission's methodology in the Final Decision Paper for the upcoming regulatory control period is essentially the same Final Methodology as it applied in the last regulatory control period. Consequently the Commission must apply this Final Methodology with due regard for the implications, financial and operational, that it will have on Power and Water;*
> - *The Final Methodology will not fully compensate Power and Water for its costs during the third regulatory control period, and will instead risk significant regulatory error; and*
> - *In likening the TFP approach in the Final Decision Paper to the application of TFP in New Zealand, the Commission has not properly recognised a crucial difference. The*

New Zealand application includes the opportunity to have a full forward looking building blocks review carried out when TFP is no longer tenable." (p.16)

5.197 As to Power Networks' operating expenditure, Power and Water claimed that:

"…[this] expenditure increased almost immediately following the 2004 Final Determination, and was maintained at between $35 million and $50 million per annum throughout the second regulatory control period…

In particular, the numbers make clear that the operations and maintenance benchmarking study that was conducted in 2002, on which the Commission determined that Power and Water's costs were 20% higher than efficient levels, was not a reliable method on which to base future costs. Power Networks' operations and maintenance costs did not decrease from $28 million by 2% each year – rather it increased to $49 million as the system grew to support an international minerals, resources and energy boom, and to address system security and reliability factors. This issue alone is a major contributor to both Power and Water's losses over the second regulatory control period, and the Po factor for the third regulatory control period." (p.18)

5.198 As to Power and Water's capital expenditure, Power and Water claimed that:

"…[this] expenditure has also increased significantly over the period. …

It is acknowledged that there were limitations around Power and Water's ability to forecast future expenditure requirements accurately at that time. All the same:

- *All the available forecasts were well in excess of its 2002-03 costs; and*
- *The eventual control did not take those forecasts into account." (p.18)*

5.199 Power and Water has summed up by asserting that:

"Power and Water's … forecasts made in 2004 have proved to be more reliable than the 2004 Final Determination." (p.17)

"In fact, the TFP Final Methodology has been financially disadvantageous for Power and Water over the current regulatory control period and now a daunting Po is required for Power and Water to meet its costs commencing in 2009-10." (p.20)

Commission's initial assessment

5.200 The various adjustments and corrections required by the Commission and documented in the initial draft determination together gave rise to a Po adjustment factor of 24.4%, compared with Power and Water's proposal of 61.4%. While this was a significant reduction in the Po adjustment factor, the fact of the matter was that the Po value as estimated by the Commission of 24.4% still involved a very substantial increase in network tariffs.

5.201 The Commission stated that it was far from comfortable with such a significant Po value.

5.202 The Commission therefore looked more closely at the reasons giving rise to such a large Po value. It asked: How much is due to mistakes made at the time of the 2004 Reset? By the Commission? By Power and Water? How much is explained more recently by decisions made by the owner or board and management of Power and Water?

5.203 If Power and Water was to be believed, it is all the Commission's fault – and the Commission's myopia at the time of the 2004 Reset.

5.204 However, it was the Commission's assessment that Power and Water provided little substantiation and no analysis in support of this claim. In fact, by the Commission's reckoning (which follows), the Commission is responsible for about 3½ percentage points of the 24.4% initial Po value, with responsibility for the remaining 21 percentage points lying squarely with Power and Water itself.

5.205 The facts of the matter are that, for the 2004 Reset, Power and Water was not required to lodge any forecasts covering the second regulatory period (2004/05 to 2008/09). However, Power and Water did lodge such forecasts with the Commission six months after the 2004 Reset for the purposes of the asset valuation off-ramp review. The Commission has no reason to believe that these off-ramp forecasts were any different than the forecasts in Power and Water's possession at the time of the 2004 Reset.

5.206 Table 5-25 compares the second regulatory period forecasts of actual opex provided by Power and Water for the off-ramp review with the outturn accepted by the Commission for the Draft Determination.

Table 5-25
Actual Operating and Maintenance Expenditure
Second Regulatory Period

($'000)	2004/05	2005/06	2006/07	2007/08	2008/09	5-yr total
Power and Water 2004 forecasts	35,451	37,640	38,318	38,443	39,008	188,859
Outcomes (as per the 2009 Draft Determination)	41,710	43,215	48,756	56,050	56,998	246,729
error	**-18%**	**-15%**	**-27%**	**-46%**	**-46%**	**-31%**

5.207 It is evident from Table 5-25 that Power and Water's own opex forecasts at the time of the 2004 Reset were substantially off the mark, contrary to Power and Water's assertions in its IRP document.

5.208 Table 5-26 compares the second regulatory period forecasts of actual capex provided by Power and Water for the off-ramp review with the outturn accepted by the Commission for the Draft Determination.

Table 5-26
Actual Capital Expenditure
Second Regulatory Period

($'000)	2004/05	2005/06	2006/07	2007/08	2008/09	5-yr total
Power and Water 2004 forecasts	21,142	18,340	23,597	19,053	15,536	97,668
Outcomes (as per the 2009 Draft Determination)	11,499	22,385	28,351	44,889	56,582	163,705
error	**+46%**	**-22%**	**-20%**	**-136%**	**-264%**	**-68%**

5.209 Once again, as is evident from Table 5-26, Power and Water's own capex forecasts at the time of the 2004 Reset were wildly off the mark, contrary to Power and Water's assertions in its IRP document.

5.210 Table 5-27 shows what might have happened had the Commission opted to use a multi-year building blocks approach rather than the TFP-based approach at the 2004 Reset based on Power and Water's forecasts *at that time* (in conjunction with the parameters values used at that time, such as the WACC, quantity growth and opex efficiency adjustment factor).

Table 5-27
Required Revenue Calculated using the Building Blocks Approach
Second Regulatory Period

($'000)	2004/05	2005/06	2006/07	2007/08	2008/09	5-yr total
Using Power and Water's 2004 forecasts (and the 2004 Reset parameters)	73,865	78,149	81,184	75,541	82,669	391,408
Using outcomes as per the 2009 Draft Determination (and the 2009 Reset parameters)	80,638	80,703	88,997	95,201	99,528	445,067
error	**-9%**	**-3%**	**-10%**	**-26%**	**-20%**	**-14%**

5.211 It is evident from Table 5-27 that, even if the Commission had used a multi-year building blocks approach rather than the TFP-based approach at the 2004 Reset as urged by Power and Water, basing such an approach on Power and Water's forecasts at the time (and the 2004 parameters) would still have necessitated a Po adjustment at the end of the second regulatory period of around 20%.

5.212 The Commission did, however, acknowledge that the TFP-based approach as applied in the 2004 Reset was itself responsible for an additional shortfall in revenue, as shown in Table 5-28.

Table 5-28
Allowed Revenue[(a)]
Second Regulatory Period

($'000)	2004/05	2005/06	2006/07	2007/08	2008/09	5-yr total
Under the 2004 TFP approach	79,598	72,406	74,127	78,423	79,994	384,548
Calculated using a building blocks approach and Power and Water's 2004 forecast (with 2004 parameters)	73,865	78,149	81,184	75,541	82,669	391,408
difference	**+7%**	**-8%**	**-10%**	**+4%**	**-3%**	**-2%**

(a) Includes certain non-sales revenue as well as all sales revenue.

5.213 The Commission accepted that it must take primary responsibility for the shortfall evident in Table 5-28.

5.214 The Commission examined the sources of this shortfall. It found that three general factors were at work.

5.215 First, the Commission recognised that, in the 2004 Reset, it applied what in hindsight can be described as a 'hybrid approach' rather than a 'pure TFP approach' when calculating the X_1 component of the CPI-X price path. In the 2004 Reset, Meyrick was involved only in estimating the X_2 component and the associated opex efficiency adjustment factor. GHD Meyrick has advised the Commission that had they been

involved in recommending the X_1 component at the time of the 2004 Reset, the X_1 value would have been around 1% based on strict TFP principles, not 1¾%. The higher X_1 value determined by the Commission for the 2004 Reset reflects mainly the influence of some building block-based X factors. Table 5-29 shows the results if the Commission had instead used a pure TFP approach to calculating the X_1 value for the 2004 Reset rather than the hybrid approach it used at the time.

Table 5-29
Allowed Revenue[(a)]
Second Regulatory Period

($'000)	2004/05	2005/06	2006/07	2007/08	2008/09	5-yr total
Using the 2004 Reset value for X_1 of 1¾%	70,703	72,026	72,788	75,318	76,222	367,057
Using a corrected X_1 value of 1%	71,242	73,128	74,463	77,609	79,132	375,575
difference	**-1%**	**-2%**	**-2%**	**-3%**	**-4%**	**-2%**

(a) Includes certain non-sales revenue as well as all sales revenue.

5.216 The second factor at work is indicated by the gap remaining even between this corrected TFP-based allowed revenue and use of a building blocks approach based upon Power and Water's forecasts at the time. The Commission's approach in the 2004 Reset clearly did not factor-in all the cost increases forecast by Power and Water at the time. It can be demonstrated that only if an X factor of around 0% had been used – rather than the corrected 1% – would the Commission's 2004 Reset approach have achieved an allowed revenue equivalent to the building blocks approach applied using Power and Water's forecasts at the time. Playing a role was the fact that the Commission's 2004 Reset approach failed to anticipate the disconnect which emerged over the second regulatory period between consumer prices movements and movements in input prices in the energy sector. This is why the Commission has added the X_3 factor to the 2009 Reset specification of the TFP-based price path. Effectively, in the 2004 Reset, X_3 was set at zero. Had an X_3 value of 1% been used in the 2004 Reset, actual revenue by the end of the second regulatory period would have been practically identical with that resulting under the building blocks approach. This result is shown in Table 5-30.

Table 5-30
Allowed Revenue[(a)]
Second Regulatory Period

($'000)	2004/05	2005/06	2006/07	2007/08	2008/09	5-yr total
Using a corrected X_1 value of 1% and an X_3 value of 1% (and with 2004 parameters)	71,954	74,596	76,716	80,717	83,115	387,099
Calculated using a building blocks approach and Power and Water's 2004 forecast (with 2004 parameters)	73,865	78,149	81,184	75,541	82,669	391,408
difference	**-3%**	**-5%**	**-6%**	**+6%**	**+1%**	**-1%**

(a) Includes certain non-sales revenue as well as all sales revenue.

5.217 A third, offsetting, factor was also at work over the second regulatory period. The Commission's use of a price cap (rather than a revenue cap) approach resulted in allowed revenue escalating in line with actual quantity growth (rather than being locked into the quantity growth forecast at the time of the 2004 Reset). Such an allowance is not evident under the building blocks-based revenue cap approach favoured by Power and Water. As Table 5-31 shows, this feature of the Commission's TFP approach itself was responsible for offsetting over one half of the combined difference resulting from the first two factors.

Table 5-31
Allowed Revenue[(a)]
Second Regulatory Period

($'000)	2004/05	2005/06	2006/07	2007/08	2008/09	5-yr total
actual revenue under the 2004 TFP approach	79,598	72,406	74,127	78,423	79,994	384,548
allowed revenue under 2004 TFP approach (2004 forecast quantity growth)	70,703	72,026	72,788	75,318	76,222	367,057
difference	**+13%**	**+1%**	**+2%**	**+4%**	**+5%**	**+5%**

(a) Includes certain non-sales revenue as well as all sales revenue.

5.218 In summary, it is evident from Table 5-28 that the Commission's 2004 Reset approach could be responsible for an annual shortfall in Power and Water's actual revenue of around $2.7 million at the end of the second regulatory period. On its own, this shortfall would warrant a Po adjustment of only 3.3%. Over all five years of the second regulatory period, the shortfall attributable to the Commission's 2004 Reset approach could total around $7 million.

5.219 The Commission is confident that it now has in place a specification of the TFP approach which will avoid a repeat of the type of shortfalls for which its previous specification was responsible during the second regulatory period.

5.220 These numbers must be put into context, however, by comparing them with the shortfalls on account of forecasting errors that can be attributed only to Power and Water. From Table 5-27, it is evident that Power and Water's under-estimation of its own operating and capital expenditures was directly responsible for an annual shortfall in its actual revenue of nearly $17 million at the end of the second regulatory period. On its own, this shortfall would warrant a Po adjustment of around 20%. Over all five years of the second regulatory period, the aggregate revenue shortfall attributable to Power and Water's forecasting deficiencies could total around $55 million.

5.221 Hence, the Commission accepted responsibility for about 15% of the initial Po adjustment factor. Responsibility for the remaining 85% must be laid squarely at the feet of Power and Water. Neither fact provides much comfort to end-users, however.

Commission's initial draft decision

5.222 In the initial draft determination, the Commission was not satisfied that the IRP as submitted met the requirements established in the Final Methodology Decision in relation to the Po adjustment factor.

5.223 In addition to specific amendments required, and in view of the unprecedented magnitude of the Po adjustment factor, the Commission also required one further amendment with respect to the Po adjustment factor before it was prepared to approve any revised regulatory proposal.

Amendment 5-6

5.224 Along with its revised regulatory proposal, Power and Water – even if it accepts all of the Commission's estimates of the 2008/09 components of the Po calculation as documented in this chapter – was required to submit both:

- a fully completed version of the October revised adjustment model, which contains not only all 2008/09 components of the Po calculation but all associated items required to complete the Po calculation and all reconciliations requested in the model; and
- an examination and explanation specifically addressing the main factors accounting for the disparities documented in Tables 5-25 and 5-26 above, along with a statement as to:
  - which of these main explanatory factors were the result of actions or decisions of the owner or board and management of Power and Water, along with a summary of those actions or decisions and the main reasons why such actions or decisions were considered necessary, and
  - which were outside the control (i.e., not a result of the actions) of the owner or board and management of Power and Water.

5.225 The initial draft determination indicated that failure by Power and Water either to comply with this requirement or to provide explanations and statements that the Commission considered satisfactory would result in the Commission re-considering the Po value suggested by the Commission's estimates of the 2008/09 components of the Po calculation.

Views in submissions on the initial draft determination

5.226 In its submission, Power and Water stated that it did not intend:

> *"…to suggest that the shortfall between revenue and costs in the second regulatory period was either (a) "all the Commission's fault" or (b) "due to the Commission's myopia at the time of the 2004 Reset". The revenue proposal instead sought to make clear that inflexibility in the control mechanism – specifically the TFP based method – and the Commission's view that it did not require forecast costs in order to estimate required revenue, combined to cause a large required increase in 2008-09 network tariffs." (p.36)*

5.227 Power and Water also questioned the purpose of proposed Amendment 5-6 in the initial draft determination.

> *"Power and Water does not understand the basis of the Commission's request, specifically it does not understand:*
>
> - *Why the Commission requires the information that it has requested…;*
> - *How the information will assist the Commission in determining the appropriate Po for the third regulatory period; and*
> - *How the information will be used by the Commission.*
>
> *…Power and Water does not intend, at this stage, to provide the information requested by the Commission. Should the Commission require this information to satisfy a need under the Code or the Rules, then Power and Water will comply." (pp.35-36)*

5.228 Finally, Power and Water claimed that its modelling indicates that the Po adjustment proposed did not provide it with sufficient revenue to meet its forecast capital and operational expenditure over the third regulatory period.

> *"Under all [of Power and Water's modelling] scenarios, the Commission's Draft Determination does not provide Power and Water with sufficient revenue necessary to meet its obligations. This suggests that:*
>
> - *The X factors are currently insufficient to take account of Power and Water's actual requirements to spend money on its distribution network and its customers, regardless of the asset valuation method or operational cost efficiency scenarios chosen; and*
> - *The TFP method adopted by the Commission should be balanced with a check by the Commission that Power and Water will not be under-funded in this*

> *Determination process. Power and Water's modelling, which it would be pleased to share with the Commission, suggests that a large Po at the cessation of the third regulatory period is a certainty if the current Draft Determination parameters are maintained." (p.6)*

5.229 In support of this claim, Power and Water advised the Commission that the forecasts previously provided to the Commission (and used by the Commission when making its initial draft determination) were incorrect. Power and Water advised that the revised forecasts:

> *"…are significantly larger than those that Power and Water previously advised to the Commission in its supplementary data submission in September 2008. This reflects a spreadsheet error made by Power and Water which has now been corrected." (p.5)*

5.230 Using its corrected capital and operating expenditure forecasts, Power and Water claimed that the revenue and cost scenario modelling that it had undertaken demonstrated that the Commission's draft determination did not provide it with sufficient revenue to meet its forecast capital and operational expenditure over the third regulatory period.

> *"Power and Water is concerned that the Draft Determination does not provide it with revenue sufficient to meet its forecast costs over the next regulatory period.*
>
> *This is because:*
>
> - *Power and Water is forecasting that operating and capital expenditure will increase substantially over the next ten years. These forecasts do not yet include any expenditure impacts from the current Government reviews, and are therefore likely to be under-estimated;*
> - *These forecasts are considerably higher than that provided to the Commission as supplementary information with the IRP, due to a spreadsheet error made by Power and Water in collating these forecasts; and*
> - *The impact of these forecasts is that there is a significant difference between the revenue that Power and Water will recover under the Commission's Draft Determination and its forecast costs over the third regulatory period." (p.5)*

Commission's further assessment

5.231 The various adjustments and corrections required by the Commission in the Draft Determination together gave rise to a Po adjustment factor of 25.5%, compared with Power and Water's proposal of 61.4%.

5.232 Power and Water's proposed Po adjustment factor is reconciled with the lower Po value estimated by the Commission in Table 5-32.

Table 5-32
Summary of Significant Adjustments to Po Value

	($'000)	Po	Reason for adjustment
Power and Water's proposed Po		**61.4%**	
Return on Opening Capital	-15,441	-20.3%	Adjustment of RAB to reflect $350m valuation at 1 July 2002
Return on New Capital	861	1.1%	Application of nominal (rather than a real) WACC
Return of Capital (Depreciation)	-1,944	-2.6%	Adjustment to depreciation on revised RAB and adjustment to correct Power and Water's depreciation calculation errors
Holding Gains adjustment	4,434	5.8%	Reduction in holding gains resulting from the revised RAB
Efficient Operating Expenditure	-10,205	-13.4%	Efficiency and accuracy adjustments, and decrease in debt raising costs resulting from lower RAB
Actual Revenue	3,960	-6.5%	Increase in estimated revenue
Commission's adjusted Po		**25.5%**	

5.233 Table 5-33 provides a comparison of the makeup of the Commission's draft Po estimate and Power and Water's proposal.

Table 5-33
Comparison of the Commission's Estimate and Power and Water's Proposal

	2008/09 ($'000)	
	Power and Water's proposal	**Commission's draft**
Return on Opening Capital	63,334	47,894
plus Return on New Capital	1,989	2,850
plus Return of Capital (Depreciation)	17,978	16,031
less Holding Gains	-18,187	-13,753
plus Efficient Operating Expenditure	57,570	47,365
Total Required Revenue	122,684	100,387
Estimated Revenue	76,034	79,994
Po adjustment factor	**61.4%**	**25.5%**

5.234 As to Power and Water's arguments in its submission on the initial draft determination, the Commission observed that it failed to see the difference made by Power and Water between:

- the Commission's characterisation (in the initial draft determination) of Power and Water's position in the IRP as suggesting that the shortfall between revenue and costs in the second regulatory period was either "all the Commission's fault" or "due to the Commission's myopia at the time of the 2004 Reset"; and

- Power and Water's restatement of its position in its submission that:

"…inflexibility in the control mechanism – specifically the TFP based method – and the Commission's view that it did not require forecast costs in order to estimate required revenue, combined to cause a large required increase in 2008-09 network tariffs." (p.36)

5.235 Power and Water's denial – of the Commission's key point that, irrespective of whether the multi-year building block approach or the TFP-based approach had been used in the 2004 Reset, inadequacies in Power and Water's own forecasts at the time account overwhelmingly for the Po adjustment that now seems required as part of the 2009 Reset – does not make it true. The facts do not support its case.

5.236 And to compound the problem, the Commission noted that Power and Water had found it necessary to repudiate forecasts relating to the third regulatory period (and beyond) which were provided to the Commission for use in making the initial draft determination. The corrections made were substantial, as shown in Table 5-34.

Table 5-34
Power and Water's Capex and Opex Forecasts
Third Regulatory Period

($'000)	2009/10	2010/11	2011/12	2012/13	2013/14
Opex (September 2008)	30,080	27,840	29,591	23,654	29,713
Opex (November 2008)	68,718	74,111	75,480	83,907	83,445
Capex (September 2008)	60,229	55,942	31,080	23,649	24,122
Capex (November 2008)	108,200	74,200	63,700	63,200	71,300

5.237 Power and Water's forecasting track record is a legitimate area of concern for the Commission. Until Power and Water signals that it is prepared to try and convince the Commission that it (Power and Water) has significantly improved its capacity and competency in the area of financial forecasting, the Commission is justified in being (increasingly) sceptical.

5.238 It is an understatement to say that the Commission is perplexed because Power and Water:

- on the one hand, is reluctant to acknowledge the reasons for variances between forecast and outturn (actual) opex and capex over the course of the second regulatory period; and
- on the other hand, expects the Commission to accept new (and volatile) forecasts made by Power and Water as they relate to the third regulatory period.

5.239 Finally, the Commission was not provided with any details of Power and Water's scenario work, which clearly had only been undertaken very recently, at odds with what seem to be implied in the IRP.

5.240 Nevertheless, the Commission indicated it was prepared to step back from the formulation of Amendment 5-6 in the initial draft determination, and to replace it with an amendment that required Power and Water – if it seriously wished the Commission to consider and put on the public record its assessment of the financial viability consequences of alternative regulatory approaches – to, as part of its revised regulatory proposal:

- publish its forecasts of opex and capex and required revenue for the third regulatory period; and
- provide an explanation as to why these forecasts are more valid or appropriate than those made by Power and Water at the time of the 2004 Reset, including by documenting the changes in policies and methodologies in support of its improved quality of forecasting.

5.241 Only if Power and Water was prepared to provide such information and the necessary supporting documentation could the Commission, when developing and

making its Final Determination, give further consideration to whether the proposed Po adjustment was sufficient to ensure that the regulated networks business of Power and Water remained financially sustainable.

Commission's revised draft decision

5.242 The Commission was not satisfied that the IRP as submitted met the requirements established in the Final Methodology Decision in relation to the Po adjustment factor.

5.243 In view of the unprecedented magnitude of the Po adjustment factor, the Commission also required two further amendments with respect to the Po adjustment factor before it was prepared to approve any revised regulatory proposal:

Amendment 5-7

5.244 The revised regulatory proposal must be accompanied by a fully completed version of the November revised Po adjustment model, which contained not only all 2008/09 components of the Po calculation but all associated items required to complete the Po calculation and all reconciliations requested in the model.

Amendment 5-8

5.245 If Power and Water wished the Commission to consider and publish its assessment of the financial viability consequences of the Po and X values approved by the Commission as part of the final determination (including in comparison with those under alternative regulatory approaches and as proposed by Power and Water itself), the revised regulatory proposal must be accompanied by both:

- a completed version of the AER's post-tax revenue model for the five years of the third regulatory period; and
- a statement as to how (and why) the policies and methodology underpinning Power and Water's financial forecasts for the 2009/10 to 2013/14 period are an improvement on the policies and methodologies underpinning Power and Water's 2004 forecasts for the 2004/05 to 2008/09 period.

Power and Water's revised proposal

5.246 After updating CPI estimates for actuals and amending the 2008/09 inflation rate in the Commission's Po model (discussed in chapter 4), the Commission estimates Power and Water's proposed Po adjustment factor in its RRP to be 51.1%.

5.247 The calculation of this proposed Po value is summarised in Table 5-35.

Table 5-35
Power and Water's Proposed Po Adjustment Factor

Building block component	**Power and Water's proposal 2008/09 ($'000)**
Return on Opening Capital	63,294
plus Return on New Capital	2,861
plus Return of Capital (Depreciation)	22,492
less Holding Gains	-22,719
plus Efficient Operating Expenditure	54,920
Total Required Revenue	120,848
Estimated Revenue	79,994
Proposed Po adjustment factor	**51.1%**

5.248 Power and Water submitted a version of the AER's post-tax revenue model (PTRM) along with its RRP:

> *"The Po proposed in this Regulatory Proposal will provide sufficient revenue in 2009-10 for Power and Water to meet its prudent costs in 2008-09. It does not provide any means, other than through the X factor for tariff escalation, for meeting the costs of future works during the regulatory control period if those costs outstrip demand growth. The Regulatory Proposal presents evidence that the base year assessment of the 2008-09 cost building blocks will not allow Power and Water to recover sufficient revenue to meet its forward looking capital and operating expenditure obligations. The shortfall over the third regulatory period is estimated to be $157.3 million using the AER's Post Tax Revenue Model (PTRM) and the Commission's proposed Po and X Factors." (pp.3-4)*

5.249 Power and Water argued that:

> *Power and Water is concerned that the Draft Determination does not provide it with revenue sufficient to meet its forecast costs over the next regulatory period. This is because:*
>
> - *Power and Water is forecasting that operating and capital expenditure will increase substantially over the next ten years. These forecasts do not yet include any expenditure impacts from the impending Davies Inquiry reviews, and are therefore likely to be under-estimated; and*
> - *the impact of these forecasts is that there is a significant difference between the revenue that Power and Water will recover under the Commission's Draft Determination and its forecast costs over the third regulatory period.*
>
> *Power and Water's operating and maintenance and capital expenditure forecasts are set out in the table below.*

	2009/10	2010/11	2011/12	2012/13	2013/14
Operating Expenditure ($M)	61.831	66.105	65.963	70.489	74.115
Capital Expenditure ($M)	95.939	68.547	65.357	61.275	72.840

> *Power and Water also expects that it will take advantage of the proposed pass-through mechanism in order to allow it recover costs consequent to the Davies Inquiry once the Final Report is released.*
>
> *Power and Water has undertaken a review of its revenue and costs using the AER's PTRM Model, as required by Amendment 5-8 of the Draft Determination. This model assumes that the $350M roll-forward asset valuation is used, as set out in the Draft Determination, and that Power and Water's operating expenditure forecasts are adjusted for a 17% "efficiency factor" each year.*
>
> *The net present value of the loss faced by Power and Water is $157.3 million, demonstrating that the Commission's Draft Determination does not provide Power and Water with sufficient revenue necessary to meet its obligations over the third regulatory control period. This suggests that:*
>
> - *the X factors are currently insufficient to take account of Power and Water's actual requirements to spend money on its distribution network and its customers, regardless of the asset valuation method or operational cost efficiency scenarios chosen; and*
> - *the TFP method adopted by the Commission should be balanced with a check by the Commission that Power and Water will not be under-funded in this Determination process. The outcomes from the PTRM show clearly, in the absence of the outcomes of the Davies Inquiry, that a large Po at the cessation of the third regulatory period is a certainty if the current Draft Determination parameters are maintained." (p.21)*

5.250 Power and Water did not submit the requested statement as to how (and why) the policies and methodology underpinning its financial forecasts for the 2009/10 to 2013/14 period are an improvement on the policies and methodologies underpinning its 2004 forecasts for the 2004/05 to 2008/09 period.

Commission's final assessment

5.251 Based on the various adjustments determined by the Commission and documented in this report, the Commission determines the Po adjustment factor to be 13.1%.

5.252 This compares with the Po adjustment factor of 25.5% in the Draft Determination. This difference is due to the Commission's decisions to:

- base the WACC on 2008/09 rather than 2009/10 parameter values (refer to the discussion on the rate of return on capital in chapter 4);
- update the CPI forecast for actuals in the Po adjustment model (refer to the discussion on the corrections and revisions to the Po adjustment model in chapter 4); and
- incorporate Power and Water's revised 2008/09 capex and opex estimates.

5.253 This also compares with Power and Water's proposal of 51.1%. Power and Water's proposed Po adjustment factor is reconciled with the lower Po value estimated by the Commission in Table 5-36.

Table 5-36
Summary of Significant Adjustments to Po Value

	($'000)	**Po**	**Reason for adjustment**
Power and Water's proposed Po		**51.1%**	
Return on Opening Capital	-19,315	-24.2%	Adjustment of RAB to reflect $350m valuation at 1 July 2002 and use of WACC based on 2008/09 parameter values
Return on New Capital	241	-0.3%	Use of WACC based on 2008/09 parameter values
Return of Capital (Depreciation)	-6,913	-8.6%	Adjustment to depreciation on revised RAB
Holding Gains adjustment	5,450	6.8%	Reduction in holding gains resulting from the revised RAB
Efficient Operating Expenditure	-9,340	-11.7%	Efficiency adjustment and decrease in debt raising costs resulting from lower RAB
Actual Revenue	-	-	No adjustment
Commission's adjusted Po		**13.1%**	

5.254 Table 5-37 provides a comparison of the makeup of the Commission's Po estimate and Power and Water's proposal.

Table 5-37
Comparison of the Commission's Estimate and Power and Water's Proposal

	2008/09 ($'000)	
	Power and Water's proposal	**Commission's estimate**
Return on Opening Capital	63,294	43,979
plus Return on New Capital	2,861	2,620
plus Return of Capital (Depreciation)	22,492	15,579
less Holding Gains	-22,719	-17,269
plus Efficient Operating Expenditure	54,920	45,580
Total Required Revenue	120,848	90,489
Estimated Revenue	79,994	79,994
Po adjustment factor	**51.1%**	**13.1%**

Commission's final decision

5.255 The Commission determines the Po adjustment factor to be 13.1%.

CHAPTER

6

OTHER ASPECTS OF THE INITIAL REGULATORY PROPOSAL

Introduction

6.1 As required by the Draft Determination, besides a proposed Po adjustment factor (as discussed in chapter 5), the revised regulatory proposal ("RRP") submitted by Power and Water contained a number of other proposals, including:

- a draft Network Pricing Principles and Methods Statement to apply to the setting of individual prices;
- for the regulatory year commencing 1 July 2009, indicative Network Tariff Schedules consistent with all other elements of the regulatory proposal (the 'initial pricing proposal'); and
- a proposed control mechanism for alternative control services.

6.2 This chapter contains the Commission's statement of reasons for its decisions in relation to these other proposals contained in Power and Water's RRP.

Network pricing principles and methods

Requirements of the final methodology decision

6.3 The Final Methodology Decision required Power and Water's regulatory proposal to include a draft 'Network Pricing Principles and Methods Statement' to apply to the setting of individual network tariffs for direct control services.

6.4 As required by clause 75(5) of the NT Code, the Network Pricing Principles and Methods Statement must set out the details of the principles and methods to be used for establishing the reference tariffs to apply to individual network access tariffs.

6.5 The Final Methodology Decision indicated that the Commission would approve the draft Network Pricing Principles and Methods Statement submitted by Power and Water if it was satisfied that this statement is consistent with:

- the applicable requirements of the Final Methodology Decision;
- any applicable requirements of the NT Code; and
- clause 6.18.3, clause 6.18.4 and clause 6.18.5 of the *National Electricity Rules*.

Power and Water's initial proposal

6.6 In its initial regulatory proposal, Power and Water provided justification for its pricing principles and methods against the applicable requirements of the *National Electricity Rules*.

6.7 However, Power and Water did not submit a draft Network Pricing Principles and Methods Statement as such outlining the details of the principles and methods used for establishing the reference tariffs for the next regulatory period.

6.8 Power and Water has not altered its pricing structure over the first and second regulatory periods, and therefore its pricing principles and methods are those that have been in place since 2000.

> *"Power and Water selected its tariff classes in 2000 and 2001 prior to the first regulatory control period and other than to remove unused tariff sub-categories in this Regulatory Proposal, has not modified these since." (p.77)*

Views in submissions on the initial draft determination

6.9 In its submission, the NTMEU reiterated its view that the Commission should closely scrutinise Power and Water's proposed Network Pricing Principles and Methods Statement and the initial schedule of individual network access tariffs. The NTMEU considered that this would ensure that Power and Water:

> *"…not only produces a Statement that is expected to provide the targeted outcomes for tariff setting, but that the proposed methodology actual does achieve the expected outcomes. This requires the UC to undertake some additional testing to be satisfied that the PW approach does result in appropriate tariffs."(p.44)*

6.10 Also, the NTMEU reiterated its concerns regarding the tendency for service providers to manipulate tariffs in order to maximise revenue under a price cap approach. The NTMEU suggested that, to minimise this risk, the Commission should amend its initial draft determination in order to allow for increased controls on the introduction of new tariffs as part of the tariff approval process.

> *"The NTMEU strongly suggests that the UC provide some control over PW from making many adjustments to, retirements of, and opening new tariffs. This can be readily achieved by ensuring that PW must justify in detail a change in the tariff structure, and that PW can demonstrate that the change will not result in unearned revenue." (pp.43-44)*

Commission's initial assessment

6.11 The Commission was unable to make a comprehensive assessment of Power and Water's pricing principles and methods as Power and Water did not submit a draft Pricing Principles and Methods Statement.

6.12 The Commission acknowledged that some of Power and Water's pricing principles and methods were touched on in relevant parts of Power and Water's initial regulatory proposal. Nevertheless, the Commission considered that a stand-alone document setting out the details of the principles and methods to be used for establishing the reference tariffs to apply to individual network access tariffs was essential, consistent with clause 75(5) of the NT Code.

6.13 The Commission concluded, for the avoidance of any doubt, that the stand-alone network pricing principles and methods document should also include or be accompanied by:

- a framework for negotiating discounted network tariffs to replace the Commission's existing framework; and
- a capital contributions statement consistent with clause 81(2) of the NT Code.

6.14 A framework for negotiating discounted network tariffs referred to in the previous paragraph is distinct from a negotiating framework for negotiated network services. The former framework deals with a limited number of situations where network tariffs may be negotiated below the approved reference tariffs. These limited situations are:

- where below-standard network access services sought by a particular end-user may result in cost savings to the network provider; or

- where there is a genuine threat of network 'by-pass' by a particular end-user – either in whole or in part.

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

6.16 Nevertheless, the introduction of new network tariffs or tariff components is expected to be an infrequent occurrence. Frequent and extensive changes to tariffs and tariff structures are generally undesirable. The Commission stated that it expects the approved Network Pricing Principles and Methods Statement will provide adequate discipline on the development of new tariffs or tariff components.

Commission's draft decision

6.17 The Commission's draft decision was that it was not satisfied that the initial regulatory proposal as submitted met the requirements established in the Final Methodology Decision in relation to the network services pricing principles and methods statement. The Commission required the following changes to the regulatory proposal before it was prepared to approve any revised regulatory proposal:

Amendment 6-1

6.18 The revised proposal must be accompanied by a stand-alone document capable of being published on Power and Water's website which details the principles and methods that Power and Water proposes to apply when establishing the reference tariffs to apply to individual network access tariffs, consistent with clause 75(5) of the NT Code.

Amendment 6-2

6.19 The stand-alone network pricing principles and methods document must include or be accompanied by a framework for negotiating discounted network tariffs to replace the Commission's discounting framework.

Amendment 6-3

6.20 The stand-alone network pricing principles and methods document must include or be accompanied by a capital contributions statement consistent with clause 81(2) of the NT Code.

Power and Water's revised proposal

6.21 In its RRP, Power and Water provided a stand-alone document titled "Power and Water's Pricing Principles and Methods Statement".

6.22 This document addressed the Commission's amendments 6-1 and 6-2, setting out:

- the principles and methods used in establishing tariffs for standard control services, including Power and Water's assessments of compliance with clause 74 of the NT Code, and the Tariff Class and Assignment Principles and the Pricing Principles contained in the *National Electricity Rules*;
- the principles and methods used in establishing tariffs for alternative control services; and
- the proposed framework for negotiating discounted network tariffs for standard control services.

6.23 In its proposed Pricing Principles and Methods statement, Power and Water also drew attention to the current state of the contestability program in the NT:

"In relation to the requirement that a network tariff's "fixed and variable charges" must have regard for whether customers of that tariff class are able or likely to respond to price signals, Power and Water is operating in an environment of partial retail contestability, with non-contestable retail tariffs "masking" many of the price signals provided to non-contestable customers. That said, Power and Water has sought to design tariffs and tariff structures which would be sufficient to send appropriate signals to customers in the event that:

- *all customers were contestable; and*
- *Power and Water's distribution tariffs were "passed through" to customers without being "re-packaged" into retail tariffs." (Power and Water's Pricing Principles and Methods Statement – 1 July 2009 to 30 June 2014, p.11)*

6.24 Power and Water has also provided a Draft Capital Contributions Policy which incorporated the requirements of the Commission's amendment 6-3.

Commission's final assessment

6.25 The Commission considers the proposed Network Pricing Principle and Methods Statement to be reasonably comprehensive although, being a statement primarily of principles and not containing any detailed modeling, it does not get as far into the detail of how the tariffs are determined as may be required to satisfy the NTMEU's concerns regarding any cross-subsidisation of franchise customers by contestable customers.

6.26 However, the Commission is satisfied that the comparison it has undertaken in Table 6-1 covering the first three years of the second regulatory period does not establish any prima facie case that contestable customers are subsidising franchise customers under the current structure of network tariffs.

Table 6-1
Comparison of Tariff Revenue versus Energy Usage by Customer Class

	2004-05	2005-06	2006-07
Contestable Customers % Energy Usage	35.6%	34.2%	36.1%
Contestable Customers % Revenue	23.8%	22.4%	22.5%
Non-contestable Customers % Energy Usage	64.4%	65.8%	63.9%
Non-contestable Customers % Revenue	76.2%	77.6%	77.5%

6.27 Power and Water's negotiating framework for discounted tariffs forms part of its Pricing Principles and Methods Statement. The framework submitted is essentially the same as that previously approved by the Commission, although Power and Water has taken the opportunity to make explicit that deciding whether a customer is eligible for a discount or not is solely at Power and Water's discretion.

6.28 With respect to the Capital Contributions Statement, there has been some minor amendment to the Statement approved for use in the second regulatory period.

6.29 The majority of the changes are minor in nature, with the only substantive change being a revision of the formula for calculating the capital contribution:

- from: Capital Contribution = PV (capital cost of connection + operating and maintenance expense) – PV (customer tariff x volume, + residual value of works)

- to: Capital Contribution = PV (actual and attributed costs of connection) – PV (customer tariff x volume, + residual value of works).

6.30 Operating and maintenance expense (opex) is no longer included in the actual and attributed costs of connection. The Commission agrees with Power and Water that to include opex would be to over-recover from the network users. Apart from potential timing mismatches, which by virtue of the regulatory periods cannot be greater than five years, Power and Water recognises that it recovers opex by including all such amounts in any building block revenue estimates at the commencement of a regulatory period. To include it in a capital contribution calculation that spans one or several regulatory periods would require that the project-specific opex be specifically excluded from any building block estimates for calculation of any Po adjustment in following periods. Power and Water considers the latter to be generally impractical.

Commission's final decision

6.31 In accordance with clause 75(6) of the NT Code, the Commission approves the statement setting out the pricing principles and methods that Power and Water proposes to apply when establishing the reference tariffs to apply to individual network access tariffs.

6.32 In accordance with clause 75(6) of the NT Code, the Commission approves the framework for negotiating discounted network tariffs (included in the Pricing Principles and Methods Statement) as proposed by Power and Water, which replaces the Commission's discounting framework.

6.33 In accordance with clause 81(3) of the NT Code, the Commission approves the statement setting out the capital contributions policy to be applied during the third regulatory period as proposed by Power and Water.

Initial pricing proposal

Requirements of the final methodology decision

6.34 The Final Methodology Decision required Power and Water's regulatory proposal to include, for direct control services, a pricing proposal that set out Power and Water's proposed Network Tariff Schedules for the regulatory year commencing 1 July 2009.

6.35 Direct control services include both standard control services and alternative control services. Power and Water's pricing proposal for its alternative control services is dealt with in the next section.

6.36 For standard control services, an initial pricing proposal is to be comprised of proposed Network Tariff Schedules consistent with all other elements of the regulatory proposal and using values of the CPI and the X factors applying to the control mechanism for standard control services as determined at the time by the Commission.

6.37 The Final Methodology Decision indicated that the Commission would approve Power and Water's annual pricing proposal for standard control services if the Commission was satisfied that the proposed tariffs in the Network Tariff Schedules:

- comply in full with the Final Methodology Decision; and
- in all other respects are consistent with the Network Pricing Principles and Methods Statement.

6.38 In particular, the Final Methodology Decision required that the weighted average tariff for each individual end-use customer for a particular year of the regulatory period not exceed the corresponding weighted average tariff for that individual end-use customer for the preceding regulatory year by more than a permissible percentage (i.e.,

the side constraint). The permissible percentage for the first year of the third regulatory period is to be the greater of the following:

- CPI – X + Po plus 2%; and
- CPI plus 2%.

Power and Water's initial proposal

6.39 Power and Water submitted proposed Network Tariff Schedules as part of its initial regulatory proposal. Power and Water also set out the weighted average revenue for 2008/09 and expected revenue for each tariff class for 2009/10.

6.40 The only changes proposed by Power and Water to its current pricing structure were to:

> *" • Combine the second last step with the last step ("Next 1000 KvA" with "Any Further KvA") of the Northern Above 750 MWh Per Annum tariff, in the "Peak" and "Off-Peak" sub-categories. These tariff steps have historically been set at the same price and therefore this convergence will have no impact on any customer. Further, Power and Water does not consider that there are any impacts on cost signalling or any other relevant issues associated with the convergence of these tariff steps;*
>
> - *Combine the second last step with the last step ("Next 1000 KvA" with "Any Further KvA" and "Next 200,000 KWh per month" with "Any Further "kWh per month") of the Alice Springs Above 750 MWh Per Annum tariff, in the "Peak" and "Off-Peak" sub-categories for both energy and demand. These tariff steps have historically been set at the same price and therefore this convergence will have no impact on any customer. Further, Power and Water does not consider that there are any impacts on cost signalling or any other relevant issues associated with the convergence of these tariff steps;*
> - *Combine the last four steps in the Tennant Creek Above 750 MWh Per Annum tariff, in the "Demand Peak" and "Demand Off-Peak" sub-categories and "Energy Peak" and Energy Off-Peak" categories. These tariff steps have not been used by any customers for at least five years and therefore this convergence will have no impact on any customer. Further, Power and Water does not consider that there are any impacts on cost signalling or any other relevant issues associated with the convergence of these tariff steps; and*
> - *Remove the DKTL charge. This charge is no longer necessary to be distinguished from the standard Darwin/Katherine tariffs because it levies a fixed c/KWh charge on all KWh used in the Darwin/Katherine system. It can therefore be subsumed within Tariff Schedule 1 and 2 without impacting any customers." (pp.83-84)*

6.41 Power and Water stated that its proposed Network Tariff Schedules for 2008/09 were consistent with the price control mechanism as determined by the Commission, and with the approved Network Pricing Principles and Methods Statement.[35]

6.42 Power and Water advised that it had not sought to demonstrate compliance with the side constraint, as it did not know at that time the final X factor.[36]

Commission's initial assessment

6.43 The Commission's purpose in requiring Power and Water to submit its pricing proposal for 2009/10 was in order to illustrate Power and Water's Po adjustment proposal. The fact that the final X was not known was offset by the Final Methodology Decision nominating preliminary X factor components. Power and Water should have been able to demonstrate the compliance of its preliminary tariff schedules with the all aspects of the control mechanism other than the side constraint.

[35] IRP, p.83

[36] IRP, p.76

6.44 For the avoidance of any doubt, the Commission stated that it expected the RRP to include Power and Water's indicative Network Tariff Schedules for direct control services in order to illustrate Power and Water's regulatory proposal and to help demonstrate compliance with the various control mechanism requirements.

6.45 Consistent with the Part I of the *National Electricity Rules*, the Final Methodology Decision required the submission of pricing proposals for both standard control services and alternative control services.

6.46 Following the publication of the Commission's Final Determination on 31 March 2009, the Commission acknowledged that Power and Water would be required to submit its final pricing proposal for the regulatory year commencing 1 July 2009 in a timeframe consistent with that required under clause 78 of the NT Code. Consistent with the annual pricing proposal process required by the *National Electricity Rules* and the Commission's Final Methodology Decision, this pricing proposal must:

- set out Power and Water's proposed Network Tariff Schedules for direct control services (including alternative control services);
- set out how Power and Water expects network prices – both average prices and the structure of prices – to change over the regulatory period and the reasons for the expected changes; and
- demonstrate compliance with the Final Methodology Decision, the Final Determination and the Network Pricing Principles and Methods Statement.

Views in submissions on the initial draft determination

6.47 No views were expressed in submissions regarding the approach proposed regarding the initial pricing proposal.

Commission's draft decision

6.48 The Commission's draft decision was that it was not satisfied that the initial regulatory proposal as submitted met the requirements established in the Final Methodology Decision in relation to the initial pricing proposal. The Commission required the following change to the regulatory proposal before it was prepared to approve any revised regulatory proposal:

Amendment 6-4

6.49 The revised proposal must be accompanied by:

- *indicative* Network Tariff Schedules for the regulatory year commencing 1 July 2009, for direct control services, that are consistent with all other elements of the regulatory proposal;
- a statement of expected network price trends giving an indication of how Power and Water expects network prices – both average prices and the structure of prices – to change over the regulatory period and the reasons for the expected changes; and
- a statement, and a supporting spreadsheet, demonstrating the pricing proposal's compliance with the various control mechanisms established by the Commission's final Methodology Decision and draft determination.

Power and Water's revised proposal

6.50 Power and Water's RRP included indicative Network Tariff Schedules for the regulatory year commencing 1 July 2009, as well as a schedule of proposed tariffs for alternative (fixed fee) control services.

6.51 The pricing structures proposed were unchanged from the initial regulatory proposal.

6.52 Regarding expected price trends for standard control services:

"Power and Water does not consider that there will be any material deviation from the CPI-X constraint for its network tariffs, except to the extent that:

- *there are any material pass through applications made to and accepted by the Commission during the next regulatory control period. Any successful pass through application would require an adjustment to tariffs in excess of the WAPC and side constraints. In the event of a cost pass through, as indicated by the Commission in paragraph 5.57 of the Draft Determination, Power and Water can only advise on the extent of any change to tariffs after the Commission makes a determination regarding the adjustment to the Price Control Mechanism for the cost pass through;*
- *there are unexpected variations in volume which require Power and Water to re-balance particular network tariffs more than others in order to protect its revenue position. Any re-balancing will be undertaken within required side constraints and within the overall WAPC constraint; and*
- *Power and Water intends to introduce, over time and within the allowable side constraints, a Northern Territory wide tariff for customers using above 750MWh and for those using less than 750MWh, respectively. Power and Water expects to be able to achieve this for customers using in excess of 750MWh per annum within the third regulatory period, and will seek to broaden this to include customers using less than 750MWh per annum over several regulatory periods." (p.85)*

6.53 Regarding expected price trends for alternative control services:

"Power and Water intends to increase its prices for alternative control (fixed fee) services by the CPI-X factor allowed as part of the Final Determination. These increases in fixed fee charges would occur each year when network prices are submitted for approval to the Commission." (p.85)

6.54 With respect to the requirement for the provision of a supporting spreadsheet, demonstrating the pricing proposal's compliance with the various control mechanisms established by the Commission's Final Methodology Decision and draft determination, Power and Water provided a high level calculation that indicates compliance with the primary CPI-X+ Po price control.

Commission's final assessment

6.55 Power and Water did not include in its RRP a detailed supporting spreadsheet, demonstrating the pricing proposal's compliance with the various control mechanisms, although a table of high level output from such a spreadsheet was provided. While compliance appears to be demonstrated, there is insufficient detail for the Commission to confirm all aspects of the calculation.

6.56 It is expected that in formally submitting its proposed Network Tariff Schedules for 2009/10, Power and Water will supply a full compliance spreadsheet similar to those supplied for each year of the second regulatory period.

6.57 The indicative tariff schedules have been provided on a 'GST inclusive' basis. In the second regulatory period, the tariffs were approved by the Commission on a 'GST exclusive' basis.

6.58 In addition, no demonstration of compliance with the individual customer side constraint was provided. The side constraint requires that the weighted average price for each individual end-use customer for a particular year of the regulatory period is not to exceed the corresponding weighted average price for that individual end-use customer for the preceding regulatory year by more than a permissible percentage.

6.59 Power and Water provided a table showing that no individual tariff component would be increased by more than the CPI – X + Po plus 2% side constraint. However, this does not directly address the side constraint which is in terms of the impact on individual customers.

6.60 Again, the Commission expects that a full compliance spreadsheet, similar to those supplied in the second regulatory period, will be provided when the proposed Network Tariff Schedules for 2009/10 are submitted.

Commission's final decision

6.61 In accordance with clause 78(3) of the NT Code, the Commission will approve the annual schedule of individual network access tariffs submitted by Power and Water each year within the third regulatory period, unless:

- the weighted average of tariffs included in the schedule, expressed in index number form, does not comply with the constraint in equation (1) in chapter 2; or
- the Commission considers the proposed change in the structure of network access tariffs to be inconsistent with the approved Pricing Principles and Methods Statement; or
- the resultant impact on the weighted average tariff *for each individual end-use customer* does not comply with a CPI+Y side constraint, where Y is:
  - in relation to 2009/10: Po+2%; and
  - in relation to each of the four years after 2009/10: 2%.

6.62 In accordance with its general powers, the Commission requires Power and Water to maintain the following information on a networks page on the Power and Water website:

- the approved Network Tariff Schedules for the relevant year; and
- a statement of expected network price trends (to be updated for each year) giving an indication of how Power and Water expects network prices to change over the regulatory period and the reasons for the expected changes.

Alternative control services

Requirements of the final methodology decision

6.63 The Final Methodology Decision required Power and Water's regulatory proposal to include a proposed control mechanism for alternative control services.

6.64 The Final Methodology Decision indicated that the Commission would approve the control mechanism(s) proposed for alternative control services if it complies with the requirements of clause 6.2.5 of the *National Electricity Rules*.[37]

6.65 As outlined in Appendix A, the Commission decided to distinguish between the following two types of alternative control services:

- 'quoted services' – services for which the nature and scope cannot be known in advance irrespective of whether it is customer requested or an external event triggers the need (for example, price on application); and
- 'fee based services' – remaining services that are not provided on a quoted basis (Power and Water term these 'miscellaneous services').

[37] The Final Methodology Decision also required Power and Water's regulatory proposal to include for direct control services, for the regulatory year commencing 1 July 2009, its proposed Network Tariff Schedules consistent with all other elements of the regulatory proposal. Direct control services include both standard control services and alternative control services. Power and Water's proposed Network Tariff Schedules for its standard control services was dealt with in the previous section.

Power and Water's initial proposal

6.66 Power and Water's initial regulatory proposal set out its proposed treatment of alternative control services in relation to its proposed control mechanism and pricing methodology.

Fee based services

6.67 Power and Water proposed a schedule of fixed prices as its control mechanism for 'fee based services' types of alternative control services.

6.68 The methodology proposed by Power and Water for establishing the prices for these services is a build-up of costs based on the estimated forward-looking costs of providing these services.

6.69 Power and Water proposed to estimate the forward-looking costs of providing these services by:

> *"•* *Estimating the time taken in hours for travel to and from Power and Water's depot for the identified service;*
>
> - *Estimating the time taken in hours for Power and Water to undertake and complete the works;*
> - *Estimating the number of Power and Water staff required to undertake the works;*
> - *Developed prices for the services based on business hours or after hours where:*
>   - *Services in business hours were costed using an average labour rate (overheads inclusive) of $65 per hour;*
>   - *Services after-hours were costed using an average labour rate (overheads inclusive) of $85 per hour;*
>   - *No allowance was made for trucks or capital equipment to deliver the service, as there is no practical basis for making such an allocation; and*
>   - *A zero margin was included in the prices for all services. This means that only the full cost is being recovered by Power and Water.*
>
> *The prices for [fee based alternative control] services will be set out in an Excluded Services Tariff Schedule which Power and Water will publish once the Commission has made its Final Determination. This is consistent with the manner in which these services are regulated under the Rules." (pp.69-70)*

Quoted services

6.70 Power and Water proposed that the control mechanism for 'quoted services' types of alternative control services be a cost-based quotation provided by Power and Water before the service is provided, due to the uncertain nature of these services.

6.71 The methodology proposed by Power and Water for establishing the prices for these services is:

> *"…a formula such that the price is equal to:*
>
> - *The materials employed for the project multiplied by the cost of those materials; PLUS*
> - *The labour involved for the project (in hours) multiplied by the hourly rate including on-costs for that project.*
>
> *Power and Water also reserves the right to charge a profit margin not exceeding the WACC amount approved by the Commission." (pp.68-69)*

6.72 Power and Water submitted that this approach was necessary due to the uncertain nature of these services.

> *"This formula is necessary because cost inputs cannot be set in advance for quoted services as the nature of the services that need to be provided cannot be known before they are requested by the customer and the job is scoped.*
>
> *This control setting method will allow Power and Water to quote an amount that is appropriate for the type of job to be provided. These types of services could vary from*

moving a meter at a cost of several hundred dollars to removing distribution infrastructure for Government to relocate a highway which could cost several million dollars." (p.69)

Commission's initial assessment

Fee based services

6.73 The Commission was broadly satisfied that Power and Water's proposed control mechanism for 'fee based services' types of alternative control services complied with the requirements of clause 6.2.5 of the *National Electricity Rules*.

6.74 However, for the Commission to be able to accurately assess the methodology, the Commission required the different types of activities that fall within the fee based services group to be specified in similar detail to the descriptions in Appendix A.

6.75 Also, the Commission required pricing proposals for alternative control services as well as standard control services. In relation to fee based types of alternative control services, the Commission stressed that Power and Water will need to must submit its proposed fee schedules.

Quoted services

6.76 The Commission was broadly satisfied that Power and Water's proposed control mechanisms for 'quoted services' types of alternative control services complied with the requirements of clause 6.2.5 of the *National Electricity Rules*.

6.77 The Commission acknowledged that it is not possible to set a fixed price for services where the scale and scope of each individual service is initially unknown.

6.78 Power and Water's proposed methodology for establishing prices for quoted services based on a cost-based quotation provided by Power and Water before the service is provided seemed appropriate, with one exception. If the prices charged for these services are to be cost-reflective, the Commission's view was that Power and Water could not include a profit-like markup on direct labour and materials costs. A WACC-based markup is only appropriate as a return on capital invested in any assets involved. If the markup is intended instead as a margin to cover indirect costs (such as overheads), the percentage markup needs to be unrelated to Power and Water's WACC and derived instead from a standard ratio between direct and indirect costs.

6.79 Also, for the Commission to approve this aspect of the regulatory proposal, the Commission required that Power and Water outline the different types of activities that fall within the quoted services group, in similar detail to the descriptions in Appendix A.

6.80 The Commission requires annual pricing for all types of alternative control services. In relation to quoted types of alternative control services, Power and Water will need to set out its pricing methodology.

Views in submissions on the initial draft determination

6.81 No views were expressed in submissions regarding the approach proposed regarding the control mechanism for alternative control services.

Commission's draft decision

6.82 The Commission's draft decision was to approve the pricing rule element of the price control mechanism proposed for 'fee-based services' types of alternative control services, on the basis that it complied with the requirements of clause 6.2.5 of the *National Electricity Rules*.

6.83 However, the Commission was not satisfied that the initial regulatory proposal as submitted met other requirements established in the Final Methodology Decision in relation to the control mechanism for alternative control services. The

Commission required the following changes to the regulatory proposal before it was prepared to approve any revised regulatory proposal:

Amendment 6-5

6.84 The activity descriptions of the 'fee-based services' types of alternative control services must be clearly and exhaustively stated, in detail similar to the descriptions in Table A-1 in Appendix A.

Amendment 6-6

6.85 The activity descriptions of the 'quoted services' types of alternative control services must be clearly and exhaustively stated, in detail similar to the descriptions in Table A-1 in Appendix A.

Amendment 6-7

6.86 The proposed control mechanism for 'quoted services' types of alternative control services cannot include a WACC-based markup on direct labour and materials costs.

Power and Water's revised proposal

6.87 Power and Water's RRP provided an exhaustive schedule of the 'fee-based services' types of alternative control services, including descriptions of those services and proposed prices.

6.88 No similar list of the 'quoted services' types of alternative control services was provided, other than that set out in the services classification, although Power and Water's Pricing Principles and Methods Statement set out that:

> *"Power and Water will develop cost based quotations for above-standard connection services and other quoted services which cannot be set in advance given the uncertain nature of the works required.*
>
> *These quotes will be developed on a transparent basis using the hourly rates for fixed fee services." (Power and Water's Capital Contributions Policy – 1 July 2009 to 30 June 2014, p.13)*

6.89 Power and Water once again proposed that the control mechanism for 'quoted services' types of alternative control services be a cost-based quotation to be provided by Power and Water before the service is provided.

6.90 The methodology proposed by Power and Water for establishing the prices for quoted services is:

> *"…a formula such that the price is equal to:*
>
> - *the materials employed for the project multiplied by the cost of those materials; PLUS*
> - *the labour involved for the project (in hours) multiplied by the hourly rate including on-costs for that project.*
>
> *Power and Water will not charge a profit margin for quoted services, in line with Amendment 6-7 of the Draft Determination." (p.75)*

Commission's final assessment

6.91 The Commission is satisfied that Power and Water's proposed control mechanism for 'fee based services' types of alternative control services has complied with its requirements.

6.92 The Commission is satisfied that Power and Water's proposed control mechanism for 'quoted services' types of alternative control services has complied with its requirements.

6.93 Specifically, the Commission is satisfied that Power and Water has complied with amendment 6-7, as it has removed the WACC-based markup on direct labour and materials costs from the methodology for establishing the prices for 'quoted services'.

Commission's final decision

6.94 In accordance with clause 66(3) of the NT Code, the Commission approves the pricing rule element of the control mechanism for 'fee-based services' types of alternative control services as proposed by Power and Water in its RRP.

6.95 In accordance with clause 66(3) of the NT Code, the Commission approves the pricing rule element of the price control mechanism for 'quoted services' types of alternative control services as proposed by Power and Water in its RRP.

Negotiated network services

Requirements of the final methodology decision

6.96 The Final Methodology Decision required Power and Water's regulatory proposal to include a proposed negotiating framework for negotiated services.

6.97 The Final Methodology Decision required that the proposed negotiating framework be consistent with:

- the applicable requirements of the Final Methodology Decision;
- any applicable requirements of the NT Code, including the requirements set out in the chapter 2 Negotiation of Access and chapter 3 Access Terms; and
- the minimum requirements for a negotiating framework listed in clause 6.7.5(c) of the *National Electricity Rules*.

Power and Water's initial proposal

6.98 Power and Water did not propose any negotiated services, and therefore did not propose a negotiating framework.

Views in submissions on the initial draft determination

6.99 No views were expressed in submissions regarding the control mechanism for negotiated network services.

Commission's draft decision

6.100 The Commission's draft decision was to not approve any negotiating framework for the third regulatory period.

Power and Water's revised proposal

6.101 Power and Water did not propose any negotiated services in its RRP, and therefore did not propose a negotiating framework.

Commission's final decision

6.102 In accordance with its general powers, the Commission approves the proposal that there be no negotiating framework applying during the third regulatory period.

Cost pass through

Requirements of the final methodology decision

6.103 The Final Methodology Decision required the price control mechanism to allow for cost pass through arrangements, applied in a manner consistent with relevant provisions of the *National Electricity Rules* if events occur which, if not passed through, could put at risk the efficiency of Power and Water's decisions and actions.

6.104 Consistent with the *National Electricity Rules*, a pass through event is limited to specified events (most notably: a tax change event, a terrorism event, and a service standard event). However, as part of its regulatory proposal, Power and Water was able (if it so wished) to propose any additional types of cost pass through events which it considered should apply, for the Commission's consideration and possible approval.

Power and Water's initial proposal

6.105 Power and Water proposed the following pass through events additional to the specified events in clause 6.6.1 of the *National Electricity Rules*:

- *Force majeure event* – provision for fire, flood, earthquake, storm or other weather related event or natural disaster, act of God, riot, civil disorder or rebellion or other similar cause beyond the reasonable control of Power and Water that occurs during a regulatory period and materially increases the cost to Power and Water of providing standard control services;
- *Cost or demand input variance event* - an event involving any change in actual cost movements or demand during the regulatory period from cost movements or demand forecasts used in Power and Water's expenditure forecasts that materially increases or decreases the cost to Power and Water of providing standard control services;
- *Compliance event* - an event other than a service standard event or a regulatory change event involving:
  - a change in a compliance obligation (meaning a general law obligation or a requirement of a non-mandatory code, standard or guideline which represents standards acceptable to the workforce or to the community); or
  - a change in the way a compliance obligation is interpreted; or
  - any new compliance obligation, which materially increases or decreases the cost to Power and Water of providing standard control services;
- *Large customer connection event* – a network connection for a developer, an end-use customer or a generator, or a requirement for Power and Water to establish a new substation to supply load requested by a developer or end-use customer that materially increases or decreases the costs, relative to those allowed in the proposal, to Power and Water of providing standard control services; and
- *Separation event* – a legislative or administrative act or decision to separate any business or function of Power and Water in whole or in part from any other business or function of Power and Water, which materially increases or decreases the costs to Power and Water of providing standard control services.[38]

6.106 Power and Water considered that:

> *"Acceptance of these pass through events is critical to the continued efficient provision of standard control services in accordance with its regulatory and legislative obligations. The*

[38] IRP pp.72-75

occurrence of any of these events in the absence of a pass through mechanism will have the effect of penalising Power and Water for expenditure which is:

- *Driven by events over which Power and Water has little or no ability to control; and*
- *Required to incur above the forecast allowance determined by the Commission." (p.72)*

Commission's initial assessment

6.107 A cost pass through mechanism provides a degree of protection for a service provider from the impact of unexpected changes in costs that are outside of its control, which arise during a regulatory period. The triggering events usually involve change in tax events, insurance events, terrorism events, or service standard events.

6.108 A pass through mechanism lowers the risks faced by the service provider, which would otherwise have to be compensated for in the calculation of the WACC and allowed revenues. The Commission considered provision for appropriate cost pass throughs to be an important component of the overall regulatory framework.

6.109 That said, the Commission considered that it was important that such events be:

- both unanticipated at the time the regulatory reset and beyond Power and Water's control (i.e., not as a result of Power and Water's actions);
- would be triggered in circumstances where costs fall short of as well as exceed forecast costs because of a specified event, so that the approach proposed is symmetrical; and
- meet a reasonable materiality threshold.

6.110 Provided they are subject to a materiality threshold, the Commission considered that cost pass throughs associated with the following proposed pass through events meet these requirements:

- *force majeure* event; and
- compliance events.

6.111 However, the Commission considered that the case for Power and Water's other proposed pass through events (cost or demand input variance events, separation events, and large customer connection events) was more problematic. In particular:

- variances in costs or demand inputs, even material ones, seem to be a catch all which of themselves are not clearly restricted to events outside of Power and Water's control;
- any future structural separation of Power and Water or similar reforms is a matter for the NT Government as owner of Power and Water; and
- the connection of large customers is a matter that should be handled under the approved capital contributions policy, and not necessarily impact on existing network users.

6.112 In order for Power and Water's proposed revised Regulatory Proposal to be approved, the Commission suggested that Power and Water:

- limit the qualifying events to those which are unexpected and beyond Power and Water's control and not as a result of Power and Water's actions; and
- include a materiality provision.

Views in submissions on the initial draft determination

6.113 In its submission, Power and Water elaborated on its proposed approach with regard to cost pass through events. These views did not specifically address the Commission's initial draft determination, and were more appropriate for inclusion in its RRP.

Commission's draft decision

6.114 The Commission's draft decision was that it was not satisfied that the initial regulatory proposal as submitted met the requirements established in the Final Methodology Decision in relation to the cost pass through arrangements. The Commission required the following change to the regulatory proposal before it was prepared to approve any revised regulatory proposal:

Amendment 6-8

6.115 The cost pass through events proposed by Power and Water additional to the events specified in clause 6.6.1 of the *National Electricity Rules* must be limited to the occurrence of specific events which are:

- unanticipated at the time the regulatory proposal is approved (unless specifically exempted by the Commission), and
- beyond the control (i.e., not as a result of actions) of Power and Water's owner, board or management

and must include an explicit materiality provision in relation to the change in cost involved.

Power and Water's revised proposal

6.116 Power and Water's RRP dropped the proposal that large customer connections be included as a cost pass through event, but continued to argue for the inclusion of cost or demand input variance and separation event, as well as the *force majeure* and compliance events previously accepted by the Commission.

6.117 With respect to cost or demand input variance events, Power and Water argued that:

> *"While Power and Water accepts that it may be able to manage some of these risks through efficient and effective procurement and internal processes, the efficient 2008-09 opex allowance assumes these processes. The TFP base year approach is derived from estimates of Power and Water's 2008-09 operating and capital expenditure, and the X factor is set to allow for expected increases in overall input costs both in the industry and for the economy as a whole. Any additional increase in unit costs and/or demand which the prudent service provider would not be able to forecast and which the Commission's X factor and operating expenditure Determination did not foresee could therefore be defined as non-controllable.*
>
> *Power and Water considers that these non-controllable risks are best borne by users of the network and not Power and Water. As the X factors are fixed for the length of the regulatory period, Power and Water would bear the financial risk associated with these events should they occur. The costs associated with unforeseen events may significantly impact on returns to Power and Water and therefore should be allowed to be passed through.*
>
> *In line with Amendment 6-8 in the Draft Determination, Power and Water proposes a materiality provision such that the pass through amount must exceed 1% of the annual revenue from standard control services in the financial year in which the event occurs." (pp.78-79)*

6.118 With respect to separation events, Power and Water argued that:

> *"Power and Water has received no indication from the Northern Territory Government that it intends to separate Power and Water Networks from Power and Water Retail.*

That said, separation of Power and Water into separate businesses would impose considerable costs on Power and Water Networks given its current joint head office operations and shared service model.

Due to the uncertainties involved, Power and Water considers that any structural separation event needs to be incorporated as a nominated pass through event. Power and Water is of the view that the trigger for a separation event should be at the time when Power and Water has been able to firm up all costs, benefits and impacts to the point where a full business case can be presented to the Commission.

Power and Water proposes that the total cost of a separation event should be passed through in the year in which it occurs without any materiality provision." (pp.80-81)

Commission's final assessment

6.119 Regarding the types of pass through events, the Commission must be guided by clause 71(c) of the NT Code which empowers the Commission to reset the price cap during a regulatory period if it is satisfied that there exist:

"…extraordinary developments with respect to any one of the key factors identified in clause 68 [of the Code] which, in the opinion of the regulator, were outside the network provider's control".

6.120 The most notable factors identified in clause 68 of the Code are:

- the demand growth that the network service provider is expected to service;
- the service standards applicable to the network service provider;
- the network service provider's cost of capital; and
- the reasonable costs of operating and maintaining the network, including any Territory and Commonwealth taxes and any increase in the rate of a tax or any new tax.

6.121 Therefore, it is not the nature of any cost increase, but its source and magnitude that is relevant. The Code requires such cost increases to be the result of "extraordinary developments" which are "outside the network provider's control".

6.122 The Commission considers that the "extraordinary" requirement justifies a materiality threshold. The Commission accepts as reasonable Power and Water's proposed materiality provision that the pass through amount should exceed 1% of the annual revenue from standard control services in the financial year in which the event occurs.

6.123 Events which are clearly outside Power and Water's control are:

- change in tax or insurance events;
- *force majeure* events; and
- regulatory compliance events.

6.124 Any government-initiated development should be the result of a regulatory or public policy decision of government, and not just a decision by the NT Government in its ownership capacity. To qualify as a cost pass through event, any development needs to be for reasons beyond the control (i.e., not as a result of actions) of Power and Water's owner, board or management.

6.125 Finally, for any event to qualify as an "extraordinary development" is must be an event that was not anticipated at the time of the preceding reset or was explicitly excluded from affecting the outcome of that reset.

Commission's final decision

6.126 In accordance with its general powers, and consistent with clause 71(c) of the NT Code, the Commission will only consider cost pass through applications during the third regulatory period if they are the consequence of:

- change in tax or insurance events; or
- *force majeure* events; or
- regulatory compliance events; or
- service standard events; or
- such other events that satisfy the following requirements: (i) the occurrence was not anticipated at the time of the preceding reset or were, while allowable, explicitly excluded from affecting the outcome of that reset on the grounds that the likely impact on Power and Water was unknown or too difficult to quantify at the time, and (ii) the occurrence is not a result of actions of Power and Water's board or management or of decisions of the Government in its capacity as owner or shareholder or guarantor of Power and Water.

The Commission will only consider a cost pass through application based on the above types of events if it at least satisfies the materiality threshold of 1% of the annual revenue from standard control services in the financial year in which the event occurs.

Service target performance incentive scheme

Requirements of the final methodology decision

6.127 The Final Methodology Decision provided that, in relation to standard control services, a regulatory proposal may include a service target performance incentive scheme. Otherwise, no such scheme will apply.

Power and Water's initial proposal

6.128 Power and Water did not propose a service target performance incentive scheme in its regulatory proposal.

Commission's initial draft decision

6.129 As Power and Water did not propose a service target performance incentive scheme in its regulatory proposal, the Commission's initial draft decision was that no such scheme apply during the third regulatory period.

Views in submissions on the initial draft determination

6.130 In its submission, the NTMEU strongly urged the Commission to amend its initial draft determination to introduce a service target performance incentive scheme (including incentive and penalty mechanisms).

> *"The NTMEU is aware that an essential part of a TFP regulatory approach must have a requirement for minimum service standards. The absence of such standards does not allow the regulator to identify if the allowances within the TFP base program are achieving any measurable outcome. In the absence of such measurables it allows the service provider the very real potential to maximise its revenue, "run the network into the ground" and walk away. It was because of this concern that proponents of TFP based regulation require a clear statement of performance and service standards. The best way to achieve this outcome is an incentive scheme that provides sufficient commercial pressure on the service provider to be active in enhancing service performance."(p.40)*

Commission's further assessment

6.131 The Commission noted the disappointment expressed by the NTMEU in relation to the initial draft determination postponing the introduction of a service target performance incentive scheme.

6.132 The Commission recognised that events surrounding the major outages in the northern suburbs of Darwin in September and October 2008 reinforced the need for the

regulatory regime to play its part in providing adequate incentives to Power and Water to maintain network service performance and reliability. The Commission has separately recommended that the NT Government establish guaranteed service levels for non-contestable customers, and guaranteed service level (GSL) incentive payments.[39] The Commission does not have the powers necessary to introduce such arrangements in the Territory.

6.133 The Commission currently closely monitors Power and Water's network performance under its *Standards of Service Code*. Any slippage below set minimum performance standards would be clearly highlighted under the monitoring regime that the Commission has in place.

6.134 The Commission concluded that all that it could sensibly contemplate at this stage involves requiring an s-factor based scheme that adjusts the allowed price path for under- (and over-) service performance by Power and Water. However, only two States (Victoria and South Australia) currently have s-factor schemes in place. Some other jurisdictions are working towards such schemes, which require both careful calibration to avoid perverse incentives and consultation with end-users about their willingness to fund such schemes. For its part, the Commission considered that implementing service performance target incentive schemes should not be rushed or ill-considered. The Commission therefore decided that it will continue with its planned 'paper trial', involving a process similar to that undertaken in NSW's 2005-09 regulatory period.

Commission's revised draft decision

6.135 The Commission's draft decision was that, as Power and Water did not propose a service target performance incentive scheme in its regulatory proposal, no such scheme will apply for the third regulatory period. Unless Power and Water proposes such a scheme, the draft decision instead flagged a 'paper trial' of a service incentive (s-factor) scheme covering the third regulatory period before introduction of actual monetary incentives at the next reset.

Power and Water's revised proposal

6.136 Power and Water did not propose a service target performance incentive scheme in its RRP and made no comment in relation to the Commission's proposal to institute a 'paper trial' in the third regulatory period.

Commission's final decision

6.137 In accordance with its general powers, the Commission approves the proposal that there be no service target performance incentive scheme during the third regulatory period, although a 'paper trial' will be instituted instead by the Commission of a service incentive (s-factor) scheme covering the third regulatory period.

Demand management scheme

Requirements of the final methodology decision

6.138 The Final Methodology Decision provided that, in relation to standard control services, a regulatory proposal may include a demand management scheme. Otherwise, no such scheme will apply.

[39] Utilities Commission, *Casuarina Power Outages Recommendations Regarding Guaranteed Service Level (GSL) Payments*, December 2008.

Power and Water's initial proposal

6.139 Power and Water did not propose a demand management scheme in its regulatory proposal.

Views in submissions on the initial draft determination

6.140 No views were expressed in submissions regarding a demand management scheme.

Commission's draft decision

6.141 The Commission's draft decision was that, as Power and Water did not propose a demand management scheme in its regulatory proposal, no such scheme will apply for the third regulatory period.

Power and Water's revised proposal

6.142 Power and Water did not propose a demand management scheme in its RRP.

Commission's final decision

6.143 In accordance with its general powers, the Commission approves the proposal that there be no demand management scheme applying during the third regulatory period.

APPENDIX

A

NETWORK SERVICES CLASSIFICATION

Requirements of the final methodology decision

The Final Methodology Decision required Power and Water to submit, by 30 June 2008, a 'services classification proposal' to the Commission:

- showing how the network services to be provided by Power and Water should, in Power and Water's opinion, be classified under the classification in Part B, Division 1 of the *National Electricity Rules*; and
- if the proposed classification differed from the Commission's default services classification as set out at Appendix A of the Final Methodology Decision – the reasons for the difference.

The Part B, Division 1 of the *National Electricity Rules* requires distribution network services to be classified as either:

- direct control services – services that are subject to a direct form of price control. Direct control services are further divided into the following subclasses:
  - standard control services – services that are subject to the weighted average price cap form of price control; and
  - alternative control services – services that do not lend themselves to being regulated by a weighted average price cap form of price control; or
- negotiated network services – services that are not subject to effective competition but do not lend themselves to being regulated by a direct form of price control.

The Final Methodology Decision also required that the Commission approve the proposal within 30 days of receipt unless it is inconsistent with the requirements in the NT Code or (otherwise) clause 6.2.1 of the *National Electricity Rules*.

Commission's final decision

Table A-1 provides a summary of the final classification of Power and Water's network services for the third regulatory period. As required by the Final Methodology Decision, the Commission approves this classification on the grounds that it is satisfied that the network services classification summarised in Table A-1 is not inconsistent with the requirements in the NT Code or (otherwise) clause 6.2.1 of the *National Electricity Rules*.

Table A-1:
Power and Water's Network Services

UC proposed group	Activity description	Power and Water proposed group	Current classification	Approved Services Classification
Network Services	Constructing the network	Conveyance services	Regulated network access services	Standard control service
	Maintaining the network	Conveyance services	Regulated network access services	Standard control service
	Operating the network	Conveyance services	Regulated network access services	Standard control service
	Planning the network	Conveyance services	Regulated network access services	Standard control service
	Designing the network	Conveyance services	Regulated network access services	Standard control service
	Emergency response	Not specifically mentioned	Not specifically identified	Standard control service
	Administrative support	Not specifically mentioned	Not specifically identified	Standard control service
Connection Services	Commissioning of connection assets	Standard connection services	Regulated network access services	Standard control service
	Service connection	Standard connection services	Regulated network access services	Standard control service
	Installation inspection	Standard connection services	Regulated network access services	Standard control service
	Operating & maintaining connection assets	Standard connection services	Regulated network access services	Standard control service
Metering Services	Commissioning of metering and load control equipment	Metering Services	Regulated network access services	Standard control service
	Scheduled meter reading	Metering Services	Regulated network access services	Standard control service
	Unscheduled metering reading – non-chargeable	Metering Services	Not specifically identified	Standard control service
	Metering investigation	Metering Services	Not specifically identified	Standard control service
	Maintaining and repairing meters and control equipment	Metering Services	Regulated network access services	Standard control service
Quoted Services	High load escorts	Quoted Services	Not specifically identified	Alternative control service
	Covering of low voltage mains	Quoted Services	Not specifically identified	Alternative control service
	Rearrangement of network assets	Quoted Services	Excluded services	Alternative control service
	Ancillary metering services	Quoted Services	Excluded services	Alternative control service
	Supply enhancement	Quoted Services	Excluded services	Alternative control service
	Metering enhancement	Quoted Services	Excluded services	Alternative control service
	Emergency recoverable works	Quoted Services	Not specifically identified	Alternative control service
	Supply abolishment	Quoted Services	Not specifically identified	Alternative control service
	Temporary supply services – high voltage	Quoted Services	Excluded services	Alternative control service
	Rectifying illegal connections	Quoted Services	Not specifically identified	Alternative control service

UC proposed group	Activity description	Power and Water proposed group	Current classification	Approved Services Classification
	Unmetered supply services	Quoted Services	Not specifically identified	Alternative control service
Fee Based Services	Disconnection and reconnection	Fee Based Services	Excluded services	Alternative control service
	Temporary supply services – low voltage	Fee Based Services	Excluded services	Alternative control service
	Fault response – not service providers fault	Fee Based Services	Not specifically identified	Alternative control service
	Wasted attendance	Fee Based Services	Not specifically identified	Alternative control service
	Provision, construction and maintenance of street lighting assets	Fee Based Services	Not specifically identified	Alternative control service
	Non-standard data services	Fee Based Services	Not specifically identified	Alternative control service
	Installation of minor equipment to network assets (eg. Tiger Tails)	Fee Based Services	Not specifically identified	Alternative control service
	Cable location services	Fee Based Services	Not specifically identified	Alternative control service
	Unscheduled metering services – chargeable	Fee Based Services	Not specifically identified	Alternative control service
Unregulated Services	Contestable networks engineering consulting services	Unregulated service	Unregulated service	Unregulated service