

DRAFT DETERMINATION

NETWORKS PRICING:
2009 REGULATORY RESET

NOVEMBER 2008



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Table of Contents

1. Introduction	1
Background	1
Final methodology decision.....	2
Initial regulatory proposal.....	3
Purpose and Contents of this Paper	3
Documents accompanying this Draft Determination.....	4
Next steps	4
Inquiries	4
2. 2009 Regulatory Reset: Draft Determination	5
Network services classification proposal.....	5
Key parameter values	5
Initial regulatory proposal.....	8
3. Services Classification Proposal.....	13
Introduction	13
Requirements of final methodology decision	13
Power and Water's initial regulatory proposal	14
Commission's assessment	15
Commission's final decision	17
4. Key Parameter Values: Further Decisions	19
Introduction	19
Initial regulatory asset value.....	19
Rate of return on capital.....	23
X factor	26
Corrections to the Po adjustment model.....	32
5. Po Adjustment for Standard Control Services	35
Introduction	35
2008/09 opening RAB value	36
2008/09 return on new capital	41
2008/09 return of capital	45
2008/09 operating expenditure	47
2008/09 actual revenue	57
Po adjustment factor	60
6. Other Aspects of the Initial Regulatory Proposal	73
Introduction	73
Network pricing principles and methods	73
Initial pricing proposal.....	75
Alternative control services	78
Negotiated network services.....	81
Cost pass through	81
Service target performance incentive scheme.....	84
Demand management scheme	85

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

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 provider² 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. The Issues Paper sought to identify the main issues to be dealt with at the initial broad design stage of the Reset, and invited interested parties to add to or modify that list and to put forward preferred approaches.

1.7 Following its 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 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.

1.8 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”).

Final methodology decision

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

- Power and Water’s prices for standard control services are to be subject to a price control applied via a ‘tariff basket’, which expresses as an index the weighted average of each year’s prices for such services;
- the size of any Po adjustment to be applied at the end of the second regulatory period – in order to align efficient costs and revenues – is to be determined by an ex-post building block assessment of Power and Water’s 2008/09 network costs and revenues;
- the allowed year-on-year movement in the tariff basket is to be determined by the CPI minus X control, with the value of X as determined by the Commission using a total factor productivity (TFP) based approach;
- 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 (‘the side constraint’);
- in other respects, the structure of network prices is to be consistent with the Network Pricing Principles and Methods Statement; and
- for the second and each subsequent year of the regulatory period, and consistent with the relevant requirements of the NT Code, an ‘annual pricing proposal’ is to be submitted:
 - setting out Power and Water’s proposed Network Tariff Schedules for direct control services;
 - describing the nature and extent of change in the proposed Network Tariff Schedules from the tariffs applying in previous regulatory year; and
 - demonstrating compliance with the Final Methodology Decision and the approved Network Pricing Principles and Methods Statement.

1.10 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*³ 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.

³ 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.

Initial regulatory proposal

1.11 The Final Methodology Decision required Power and Water to submit 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 The Final Methodology Decision stated that a regulatory proposal must include:

- in relation to standard control services, a proposed Po adjustment factor calculated using the Commission's Po adjustment model;
- a draft Network Pricing Principles and Methods Statement to apply to the setting of individual prices; and
- for the regulatory year commencing 1 July 2009, the proposed Network Tariff Schedules consistent with all other elements of the regulatory proposal (the 'initial pricing proposal');

and, in relation to the proposed Po adjustment factor and the initial pricing proposal, must be accompanied by:

- details of all amounts, values and inputs relevant to the calculation;
- an explanation of the calculation and the amounts, values and inputs involved in the calculation; and
- a demonstration that each calculation, and the resultant amounts, values and inputs on which it is based, comply with relevant requirements of this Final Decision.

1.13 The Final Methodology Decision also provided that a regulatory proposal must include:

- for alternative control services – a proposed control mechanism; and
- for negotiated network services – a proposed negotiating framework.

1.14 Finally, the initial regulatory proposal also contained Power and Water's response to the Commission's initial consideration of the 'services classification proposal' as to how the network services provided by Power and Water should be distinguished according to the classification in Part B, Division 1 of the *National Electricity Rules*. As required by the Final Methodology Decision, Power and Water had submitted its services classification proposal on 30 June 2008. In July 2008, the Commission issued an interim approval of Power and Water's proposed services classification, subject to certain amendments.

1.15 As required by the Final Methodology Decision, Power and Water submitted its initial regulatory proposal to the Commission for the third regulatory period covering all of Power and Water's regulated networks on 22 August 2008.

1.16 Following consideration of the initial regulatory proposal, the Commission issued an initial draft determination on 3 October 2008. Submissions in response to this initial draft determination were received from both Power and Water and the NT Major Energy Users Group (NTMEU).

Purpose and Contents of this Paper

1.17 This Paper presents the Commission's Draft Determination, based on whether or not it proposes to approve Power and Water's initial regulatory proposal and, if not, what revisions it proposes to require before a revised regulatory proposal could be approved by the Commission. This Draft Determination reflects the Commission's consideration of issues raised in submissions on the initial draft determination.

1.18 Chapter 2 contains the Commission's full 'draft 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.

1.19 Chapter 3 contains the Commission's statement of reasons for its decision in relation to Power and Water's services classification proposal.

1.20 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.

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

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

Documents accompanying this Draft Determination

1.23 This Draft Determination is published in conjunction with the following accompanying documents:

- Power and Water, *2009 Networks Regulatory Reset, Initial Regulatory Proposal: 1 July 2009 to 30 June 2014*, August 2008;
- ACIL Tasman, *Review of Power and Water's Initial Regulatory Proposal: Comments and Recommendations*, September 2008;
- GHD Meyrick, *Electricity Distribution X Factors for the NT's Third Regulatory Period*, September 2008; and
- the Commission's *November revised Po adjustment model* (MS Excel workbook).

1.24 These accompanying documents can be viewed or downloaded from the Commission's website.

Next steps

1.25 Power and Water is now required to lodge a revised regulatory proposal with the Commission by 31 January 2009.

1.26 The Commission will then consider whether or not to approve Power and Water's revised regulatory proposal and, if not, will develop the necessary determinations to give effect to an approved set of arrangements to commence on 1 July 2009. The Commission's final decisions and reasoning will be published in its Final Determination to be published by 31 March 2009.

Inquiries

1.27 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

CHAPTER**2****2009 REGULATORY RESET:
DRAFT DETERMINATION**

2.1 This chapter contains the Commission's draft determination regarding network pricing to apply during the third regulatory period ("Draft Determination"). The Commission's reasons for the constituent decisions are developed in the following chapters.

2.2 The Commission's final determination will be made by 31 March 2009 after:

- Power and Water submits the revised regulatory proposal required under this Draft Determination; and
- the Commission has had the opportunity to consider that revised regulatory proposal against the requirements of this Draft Determination, the NT Code and the *National Electricity Rules*.

2.3 This Draft Determination comprises three elements:

- a final decision on whether or not the Commission approves the services classification proposal submitted by Power and Water;
- further decisions (some draft and some final) by the Commission in relation to certain key regulatory parameters and formulations; and
- a draft decision on whether or not the Commission approves the initial regulatory proposal submitted by Power and Water and, if not, what revisions are required before a revised regulatory proposal could be approved by the Commission.

Network services classification proposal

2.4 With the sole exception noted below, the Commission approves the network services classification as initially proposed by Power and Water, on the basis that this (amended) classification is not inconsistent with the requirements in the NT Code or (otherwise) clause 6.2.1 of the *National Electricity Rules*.

2.5 High load escort services are to be classified as an alternative control service rather than as an unregulated service as initially proposed by Power and Water.

Key parameter values***Initial value of the regulatory asset base***

2.6 The Commission confirms its earlier decision, made as part of the Commission's final decision regarding the price control mechanism to apply during the third regulatory period ("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 is to be based on the initial regulatory asset base (“RAB”) value of \$350 million (excluding gifted assets), as at 1 July 2002 (in July 2002 dollars) as determined by its 2005 Off-ramp Decision.⁴

2.7 Accordingly, the Commission will approve Power and Water’s revised regulatory proposal only if it rolls 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 this Draft Determination and, for matters not specifically addressed in the model or this Draft Determination, the requirements of clause 6.5.1 of the *National Electricity Rules*.

Rate of return on capital

2.8 The Final Determination will involve a Po adjustment factor which is to 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 weighted average cost of capital (WACC) as calculated at a Nominated Date. The Nominated Date will 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.

2.9 The WACC as at the Nominated Date is 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 ‘fixed parameters’: the most current AER parameters values published at the time (whether in the form of draft or final values); and
- for those parameters listed classified by the Commission as ‘market parameters’: the value as measured on the Nominated Date applying the most current methods adopted by, or proposed for adoption by, the AER for such a purpose.

2.10 For the purposes of the revised regulatory proposal, Power and Water is to take these various parameter values to be as follows:

WACC Parameters		
Fixed 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	β_e	1.0
Debt risk premium	DRP	2.0%
Corporate tax rate	T	30.0%
Debt raising cost benchmark	Dr	0.08%
Market parameters	symbol	value
Inflation rate	f	3.0%
Nominal risk free rate	Rf	6.0%

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

⁴ Utilities Commission, *Networks Pricing: Asset Valuation Off-Ramp Final Decision Statement of Reasons*, April 2005.

2.12 The Commission will approve Power and Water's revised regulatory proposal only if it applies these parameter values in conjunction with the Commission's Po adjustment model. The Commission's Final Determination will provide for the Po adjustment factor to be used as a basis of Power and Water's pricing proposal for the regulatory year commencing 1 July 2009 to be based on the relevant WACC as calculated on the Nominated Date.

X factor in CPI-X price path

2.13 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

$$X = X_1 + X_2 - X_3 .$$

Other aspects of the Po adjustment model

2.14 For the purpose of calculating the Po adjustment factor, the building blocks calculation of required revenue (R^*) in 2008/09 is to 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.

2.15 The Commission will 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 this Draft Determination.

Initial regulatory proposal

2.16 The Commission has considered all matters comprising the Initial Regulatory Proposal (“IRP”) submitted by Power and Water:

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

2.17 The following elements of the IRP are approved, namely:

- the pricing rule element of the control mechanism proposed for ‘fee-based services’ types of alternative control services, on the basis that it complies with the requirements of clause 6.2.5 of the *National Electricity Rules*;
- that no service target performance incentive scheme will apply for the third regulatory period, with the Commission instead instituting a ‘paper trial’ of a service incentive (s-factor) scheme covering the third regulatory period before introducing actual monetary incentives at the next reset;
- that no negotiating framework will apply for the third regulatory period;
- that no demand management scheme will apply for the third regulatory period; and
- the series of gross capital expenditure (“gross capex”) on regulated network assets over the second regulatory period to 2007/08 for use in the RAB roll forward, namely:

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.

2.18 However, the other elements of the IRP are not approved on the grounds that they do not meet the requirements of the NT Code or the relevant provision of chapter 6 of the *National Electricity Rules* or the NT Code’s pricing principles. The detailed reasons for these decisions are set out in this Draft Determination. The Commission has specified the amendments it requires in order to approve a revised regulatory proposal.

2.19 If the amendments are applied using the values suggested by the Commission, a Po adjustment factor of 25.5% is implied.⁵ This compares with the Po adjustment factor of 61.4% proposed by Power and Water in its IRP.

2.20 The Commission is therefore not satisfied that the IRP as submitted meets the requirements established in the Final Methodology Decision, for the reasons set out in this Draft Determination. The Commission requires changes to the regulatory proposal as listed below (and as explained throughout this Draft Determination) prior to approving any revised regulatory proposal:

⁵ This compares with the Po adjustment factor of 24.4% in the initial draft determination. The difference is due to the Commission’s decision to amend the Return on New Capital calculation in the Po adjustment model (refer to the ‘Corrections to the Po adjustment model’ discussion in chapter 4).

Chapter 5: Po adjustment factor*Amendment 5-1*

2.21 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 below:

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 demonstrates to the Commission's satisfaction are consistent with application of the November revised Po adjustment model and all related requirements in the Final Methodology Decision and elsewhere in this Draft Determination.

2.22 In order to demonstrate to the Commission's satisfaction that proposed alternative values are consistent with application of the November revised Po adjustment model, Power and Water must correctly fill out 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 complete all associated reconciliations as part of its documentation.

Amendment 5-2

2.23 With regard to the annual estimate of annual gross capital expenditure in 2008/09, the revised proposal must be based on *either*:

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

Amendment 5-3

2.24 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 below:

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 demonstrates to the Commission's satisfaction are consistent with the November revised Po adjustment model and all related requirements in the Final Methodology Decision and elsewhere in this Draft Determination.

Amendment 5-4

2.25 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 below:

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 demonstrates to the Commission’s satisfaction are consistent with the November revised Po adjustment model and all related requirements in the Final Methodology Decision and elsewhere in this Draft Determination.

Amendment 5-5

2.26 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;
- *or* a percentage factor which Power and Water demonstrates to the Commission’s satisfaction is an appropriate percentage based on additional information and estimates on the adverse operating conditions faced by Power and Water relative to its peers.

Amendment 5-6

2.27 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 below:

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 clearly demonstrates to the Commission’s satisfaction are consistent with the November revised Po adjustment model and all related requirements in the Final Methodology Decision and elsewhere in this Draft Determination.

Amendment 5-7

2.28 The revised regulatory proposal must be accompanied by a fully completed version of the November revised Po 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.

Amendment 5-8

2.29 If Power and Water wishes 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 control 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.

Chapter 6: all other elements of the IRP*Amendment 6-1*

2.30 The revised proposal must be accompanied by a stand-alone document capable of being published on Power and Water's website which detail 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

2.31 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

2.32 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.

Amendment 6-4

2.33 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.

Amendment 6-5

2.34 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 3-1 in chapter 3.

Amendment 6-6

2.35 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 3-1 in chapter 3.

Amendment 6-7

2.36 The proposed control mechanism for 'quoted services' types of alternative control services cannot include a WACC-based markup on direct labour and materials costs.

Amendment 6-8

2.37 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 board or management

and must include an explicit materiality provision in relation to the change in cost involved.

CHAPTER

3

SERVICES CLASSIFICATION PROPOSAL**Introduction**

3.1 This chapter contains the Commission's statement of reasons for its decision in relation to Power and Water's services classification proposal.

Requirements of final methodology decision

3.2 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.

3.3 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.

3.4 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*.

Power and Water's services classification proposal

3.5 In its services classification proposal, Power and Water proposed that all of its currently regulated network access services be classified as direct control services. Power and Water provided justification for this classification against the requirements of the *National Electricity Rules* (clause 6.2.1(c)). Power and Water also provided justification for its proposed classification of direct control services between standard and alternative control services against the requirements of the *National Electricity Rules* (clause 6.2.2(c)).

3.6 Power and Water's proposal was consistent with the Commission's default services classification as set out at Appendix A of the Final Methodology Decision, with one exception – the classification of above-standard connection services. These services were classified as a negotiated service in the default classification. Power and Water proposed that these services be classified as an alternative control service.

3.7 Power and Water argued that its proposed classification of above-standard connection services as an alternative control service was consistent with the requirements of the *National Electricity Rules*.

3.8 Power and Water did not propose any negotiated network services.

Commission's interim approval

3.9 In July 2008, the Commission issued an interim approval⁶ of Power and Water's proposed network services classification on the basis that the classification proposed by Power and Water was not inconsistent with the requirements in the NT Code or (otherwise) clause 6.2.1 of the *National Electricity Rules*, subject to the following amendments:

- the classification of high load escort services as an alternative control service rather than an unregulated service; and
- the classification of disconnections and reconnections as a standard control service rather than an alternative control service.⁷

3.10 In amending Power and Water's proposal, the Commission had regard to the Australian Energy Regulator's ("AER") initial interpretation of the *National Electricity Rules*' requirements in considering its proposed position on the services classification for Queensland's distribution service providers, Energex and Ergon Energy, for the next regulatory period.⁸

3.11 In its interim approval, the Commission accepted Power and Water's reasons for its proposed change to the default classification at Appendix A of the Final Methodology Decision.

3.12 The Commission noted in its interim approval that it would consider the services classification further as part of its assessment of the proposed control mechanism for alternative control services. In deciding on the final services classification, the Commission stated that it would consider any submissions received in response to the interim approval and any further developments in relation to the AER's position on these issues.

Power and Water's initial regulatory proposal

3.13 In its IRP, Power and Water accepted the Commission's first proposed amendment to its services classification proposal – the classification of high load escort services as an alternative control service rather than an unregulated service.⁹

⁶ The Commission's interim approval of Power and Water's services classification proposal can be viewed on the networks pricing page (2009 Regulatory Reset) of the Commission's website (www.utilicom.nt.gov.au).

⁷ High load escort service is required when a customer (usually a large commercial customer) requests the movement of powerlines to allow a high load to pass underneath. Disconnection and reconnection services relate to the disconnection and subsequent reconnection of a customer's supply, at the request of a retailer or a customer.

⁸ AER's Framework and approach paper, *Classification of services and control mechanisms, Energex and Ergon Energy 2010-15*, July 2008.

⁹ IRP, p.5

3.14 However, Power and Water disagreed with the Commission's second proposed amendment – the classification of disconnections and reconnections as a standard control service. Power and Water argued that:

“...disconnections and reconnections are fee for service functions that are provided by Power Networks to Power and Water Retail in the event of a specific query from a customer or retailer. They are very different to connection services – in that connection services are generally not funded by the customer directly and are included as part of the “standard” service. Disconnections and reconnections become quite frequent in a contestable market and therefore are much better dealt with on a fee for service basis than in an environment where no charges are levied.” (p.5)

Commission's assessment

3.15 The AER released its final decision on the services classification for Queensland's distribution service providers in August 2008. The Commission has given further consideration to the network services classification for Power and Water, in light of both the AER's Final Decision and the views expressed by Power and Water in its IRP.

High load escort services

3.16 The Commission considers that Power and Water's high load escort services should be classified as an alternative control service rather than an unregulated service because the depth of competition in the market in the Northern Territory is unclear.

3.17 Power and Water accepted this proposed classification in its IRP.

3.18 The Commission considers that this classification is not inconsistent with the AER's classification of these services in Queensland, where certain aspects of the high load escort service that are currently regulated by the Queensland Competition Authority will be classified as an alternative control service and the aspects that are currently unregulated will be unclassified.¹⁰

Disconnections and reconnections

3.19 With regards to the Commission's proposed classification of disconnections and reconnections as a standard control service rather than an alternative control service, the Commission acknowledges that these services are provided in the event of a specific query from a customer or retailer, and that costs can therefore be directly attributed.

3.20 The AER considers that a feature of alternative control services is that the costs of providing these services can be directly attributable to the user and therefore costs do not need to be recovered as part of the 'standard' service charges. In its Final Decision paper, the AER stated that services can be classified as alternative control services on the cost attribution factor alone, even if the service exhibits no signs of competition or potential for competition.¹¹

3.21 The Commission therefore accepts that disconnections and reconnections should be classified as an alternative control service as proposed by Power and Water, and should not be included in the connection services group.

¹⁰ The AER has not classified high load escort services provided by Energex as these services are currently unregulated. The aspects of Ergon Energy's high load escort service that the AER has classified as an alternative control service are lifting or disconnecting and reconnecting mains.

¹¹ AER's Final Decision Framework and Approach paper, *Classification of services and control mechanisms, Energex and Ergon Energy 2010-15*, August 2008, p.25

Alternative control services - quoted and fee based services

3.22 Consistent with the AER's Final Decision and Power and Water's proposal, the Commission has also decided to distinguish between two types of alternative control services namely:

- 'quoted services' – services for which their 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 terms these 'miscellaneous services').

Classification of Power and Water's network services

3.23 Finally, the Commission sees much merit in a detailing of the resultant network services classification similar to that being used by the AER, as set out for Power and Water in Table 3-1.

3.24 The table includes general descriptions of the types of activity that fall within each service group. These activity descriptions have been based on the activity descriptions used by the AER in its final decision on the classification of Energex and Ergon Energy's distribution services for the next regulatory period.

**Table 3-1:
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	Not specifically mentioned	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	Standard connection services	Regulated network access services	Standard control service
	Scheduled meter reading	Not specifically mentioned	Regulated network access services	Standard control service
	Unscheduled metering reading – non-chargeable	Not specifically mentioned	Not specifically identified	Standard control service
	Metering investigation	Not specifically mentioned	Not specifically identified	Standard control service

UC proposed group	Activity description	Power and Water proposed group	Current classification	Approved Services Classification
	Maintaining and repairing meters and control equipment	Not specifically mentioned	Regulated network access services	Standard control service
Quoted Services	High load escorts	Unregulated service	Not specifically identified	Alternative control service identified
	Covering of low voltage mains	Not specifically mentioned	Not specifically identified	Alternative control service identified
	Rearrangement of network assets	Excluded services – quoted services	Excluded services	Alternative control service
	Non-standard data services	Not specifically mentioned	Not specifically identified	Alternative control service
	Ancillary metering services	Excluded services – miscellaneous services	Excluded services	Alternative control service
	Supply enhancement	Excluded services – quoted services	Excluded services	Alternative control service
	Metering enhancement	Excluded services – quoted services	Excluded services	Alternative control service
	After hours provision of any service	Excluded services – miscellaneous services	Not specifically identified	Alternative control service
	Emergency recoverable works	Excluded services – quoted services	Not specifically identified	Alternative control service
Fee-based Services	Disconnection and reconnection	Excluded services – miscellaneous services	Excluded services	Alternative control service
	Temporary supply services	Excluded services – miscellaneous services	Excluded services	Alternative control service
	Supply abolishment	Excluded services – miscellaneous services	Not specifically identified	Alternative control service
	Fault response – not service providers fault	Excluded services – miscellaneous services	Not specifically identified	Alternative control service
	Wasted attendance	Excluded services – miscellaneous services	Not specifically identified	Alternative control service
	Provision, construction and maintenance of street lighting assets	Excluded services – miscellaneous services	Not specifically identified	Alternative control service
Unregulated Services	Contestable networks engineering consulting services	Unregulated service	Unregulated service	Unregulated service

Views in submissions on the initial draft determination

3.25 No views were expressed in submissions regarding the Commission's assessment in the initial draft determination relating to the classification of Power and Water's network services.

Commission's final decision

3.26 The Commission has decided that high load escort services are to be classified as an alternative control service rather than as an unregulated service as initially proposed by Power and Water.

3.27 With this exception, the Commission has decided to approve the network services classification as initially proposed by Power and Water, on the basis that this (amended) classification is not inconsistent with the requirements in the NT Code or (otherwise) clause 6.2.1 of the *National Electricity Rules*.

CHAPTER

4

**KEY PARAMETER VALUES:
FURTHER DECISIONS****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 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 that has been proposed by Power and Water in its IRP is 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 argues 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 assessment in the initial draft determination

4.6 The Commission has already considered the arguments put by Power and Water in the IRP in favour of a DORC valuation of sunk assets as at 1 July 2002, as part of the Commission's Off-ramp Decision.¹² The Commission stands by its reasoning underlying that Decision and so does not intend to re-open the Decision.

4.7 In particular, the Commission rejects 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,

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

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 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)."¹³

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 an 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.

¹³ Utilities Commission, *Networks Pricing: Asset Valuation Off-Ramp Final Decision Statement of Reasons*, April 2005, p.27

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

- using Power and Water's latest 20-year financial projections 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 Paper¹⁴).

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 considers that the initial RAB value of \$350 million remains appropriate.

Views in submissions on 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 final decision

4.19 The Commission is disappointed that Power and Water has found it necessary to significantly revise the financial forecasts previously made available to the Commission in September 2008. This does not improve the Commission's confidence in Power and

¹⁴ AER, *Review of the weighted average cost of capital (WACC) parameters for electricity transmission and distribution: Issues paper*, August 2008, pp. 66-71.

Water's financial forecasts at a time when that confidence is already diminished based on the previous track record.

4.20 In light of these developments, the Commission has 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.

4.21 On this basis, the Commission confirms 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 is to 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 will approve Power and Water's revised regulatory proposal only if it rolls 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 this Draft Determination and, for matters not specifically addressed in the model or this Draft Determination, the requirements of clause 6.5.1 of the *National Electricity Rules*.

Rate of return on capital

Requirements of final methodology decision

4.23 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.

4.24 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 (β_e) 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 (γ) of 0.5.

4.25 The Commission considered that the review of weighted average cost of capital (WACC) parameters that the *National Electricity Rules* requires the AER to complete by 31 March 2009 is the 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.

4.26 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

4.27 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 results in a pre-tax nominal WACC of 10.45% and a pre-tax real WACC of 7.23%.

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

4.29 Regarding the risk free rate, Power and Water has 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)

4.30 Regarding the debt risk premium, Power and Water has 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

4.31 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.

4.32 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.

4.33 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.

4.34 In the Issues Paper released for its current WACC parameters review,¹⁵ the AER has indicated that it sees merit in also reviewing the methods for determining:

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

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

4.35 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.

4.36 Key dates for the AER's current WACC parameters review timetable are 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).

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

4.38 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 is not required to submit its proposed network tariff schedules for 2009/10 until end-April 2009, a mid-April 2009 date is the latest date possible for settling on the WACC values.

Views in submissions on the initial draft determination

4.39 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)

4.40 However, the NTMEU disagreed with Power and Water's proposal to increase the DRP from 1.1% to 2%. The NTMEU considers 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

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

Commission's draft decision

4.42 The Final Determination will involve a Po adjustment factor which is to 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 will 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.

4.43 The WACC as at the Nominated Date is 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 ‘fixed parameters’: the most current AER parameters 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.

4.44 For the purposes of the revised regulatory proposal, Power and Water is to take these various parameter values to be as follows:

Table 4-1
WACC Parameters

Fixed 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	β_e	1.0
Debt risk premium	DRP	2.0%
Corporate tax rate	T	30.0%
Debt raising cost benchmark	Dr	0.08%
Market parameters	symbol	value
Inflation rate	f	3.0%
Nominal risk free rate	Rf	6.0%

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

4.46 The Commission will approve Power and Water’s revised regulatory proposal only if it applies these parameter values in conjunction with the Commission’s Po adjustment model. The Commission’s Final Determination will 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.

X factor

Requirements of final methodology decision

4.47 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.

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

$$X = X_1 + X_2 - X_3$$

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.

4.49 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).

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

$$\begin{aligned} X &= X_1 + X_2 - X_3 \\ &= 0.0\% + 0.25\% - 1.1\% \\ &= -0.85\% \end{aligned}$$

This represents a real price *increase* of 0.85% per annum (compared with the real price *decrease* that has been applying during the second regulatory period of 2% per annum).

4.51 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

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

4.53 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

4.54 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.

4.55 This has seen 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:

$$\begin{aligned} X &= X_1 + X_2 - X_3 \\ &= 0\% + 0.25\% - 1.1\% \\ &= -0.85\%. \end{aligned}$$

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

X₁ component

4.57 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.

4.58 GHD Meyrick's assessment is that TFP growth rates of 0.9% and 0.7% per annum are 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.

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

4.60 Furthermore, this 0% recommendation is 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 believes that it is 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.

X₂ component

4.61 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.

4.62 GHD Meyrick's results show that Power and Water has 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 estimates 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.

4.63 GHD Meyrick has 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 is 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.

4.64 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.

X₃ component

4.65 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 X₃ component.

4.66 GHD Meyrick considers 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.

4.67 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.

4.68 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.

4.69 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 X₃ component estimate of 1.1%.

Commission's initial assessment

4.70 The Commission has 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.

4.71 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 X₃ 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.

4.72 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.

4.73 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.

4.74 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.

4.75 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 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 block approach.

Views in submissions on the initial draft determination

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

4.77 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 X₂ factor or the 2008-09 efficient operating and maintenance cost forecasts” (p.3)

4.78 The NTMEU did not accept the Commission's final X factor of -0.85%. The NTMEU considers 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:

- X₁ should be 0.4% (or higher);
- X₂ should be considerably higher than 0.25%; and
- X₃ should be 0%.

4.79 In relation to the X₁ 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 X₁ 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 X₁ of 0.4 as a minimum.” (pp.34-35)

4.80 In relation to the X₂ 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 X₂ 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)

4.81 In relation to the X₃ component value, the NTMEU considers that the GHD Meyrick analysis is 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 have 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

4.82 Power and Water’s concerns in this area relate 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.

4.83 For the purposes of this part of the Draft 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.

4.84 As to the X_1 component, the Commission is 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.

4.85 As to the X_2 component, the Commission is 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.

4.86 As to the X_3 component, the Commission accepts that its consultant’s X_3 component recommendation is 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 prefers 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 this Draft Determination. The expectation is that, under a consistent approach over time, the inevitable swings and roundabouts will eventually cancel out.

Commission’s decision

4.87 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
- $X_3 = 0.0\%$

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 to the Po adjustment model

Requirements of final methodology decision

4.88 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.

4.89 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.

4.90 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

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

4.92 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.

4.93 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.

4.94 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.

4.95 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).

4.96 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.

4.97 The AER deals with this by netting the indexation/holding gains element off annual depreciation.¹⁶

4.98 When correcting for this error in the Commission's Po adjustment model (as shown in Table 4-2), Power and Water's IRP proposed a Po adjustment factor of 61.4%.

Table 4-2
Impact of Modelling Correction

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

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

Views in submissions on the initial draft determination

4.100 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):

4.101 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)

4.102 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

4.103 As the Commission understands Power and Water's argument, at issue is how the Commission's Po adjustment model calculates 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 $((1 + \text{pre-tax real WACC})^{0.5} - 1)$.

¹⁶ The AER terms straight line depreciation less the holding gain as "regulatory depreciation". The Commission has not adopted this terminology.

4.104 The Commission accepts 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.

4.105 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.

4.106 Accordingly, the Commission has decided 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 $((1 + \text{pre-tax } \textit{nominal} \text{ WACC})^{0.5} - 1)$.

4.107 The resultant modified version of the model is referred to throughout this Draft Determination as the “November revised Po adjustment model”.

Commission’s final decision

4.108 For the purpose of calculating the Po adjustment factor, the building blocks calculation of required revenue (R*) in 2008/09 is to 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.

4.109 The Commission will 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 this Draft Determination.

CHAPTER

5

Po ADJUSTMENT FOR STANDARD CONTROL SERVICES

Introduction

5.1 As required by the Final Methodology Decision, the initial regulatory proposal (“IRP”) submitted by Power and Water on 22 August 2008 included, in relation to standard control services, a proposed Po adjustment factor calculated using the Commission’s Po adjustment model.

5.2 This chapter contains the Commission’s statement of reasons for its decision in relation to the Po adjustment factor proposed by Power and Water.

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 model¹⁷ 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 must comply with the Final Methodology Decision, any accompanying regulatory information instrument and the approved services classification.

¹⁷ The Commission’s Po adjustment model, which was published in conjunction with the Final Methodology Decision, 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.

5.6 For standard control services:

- the proposed Po adjustment factor must:
 - be calculated in accordance with the Commission's Po adjustment model; and
 - comply with any additional requirements of any accompanying regulatory information instrument issued by the Commission.

5.7 If the Commission refuses to approve an amount or value, the substitute amount or value on which a determination is based will 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 or (otherwise and as applicable) the relevant provisions of chapter 6 of the *National Electricity Rules* or the NT Code's pricing principles.

5.8 The Commission requested its consultants ACIL Tasman, as the Commission's expert adviser on this matter, to undertake an appraisal of the proposed Po adjustment factor and make a recommendation to the Commission as to whether that proposed adjustment factor should be accepted or rejected (and why).

2008/09 opening RAB value

Introduction

5.9 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 final methodology decision

5.10 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*.

5.11 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.

5.12 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.

5.13 The depreciation element of the roll forward is dealt with in the following section.

Power and Water's proposal

5.14 Power and Water's proposed 2008/09 opening RAB value is \$606.2 million.

5.15 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.

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

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

	year's opening RAB value (\$'000)	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

5.17 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.

5.18 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)*

5.19 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%.

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

5.21 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

	year's opening RAB value (\$'000)	<u>plus</u> indexation of opening value	<u>plus</u> annual net capex (a)	<u>less</u> asset disposals (b)	<u>less</u> annual dep'n of assets (c)	<u>equals</u> 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

5.22 In its submission, the NTMEU argued that the gross capex series submitted by Power and Water should not be used in the RAB roll-forward. The NTMEU considers 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)

5.23 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 assessment

5.24 The fact that ACIL Tasman was able to perform the roll forward of the \$350 million initial RAB value does not mitigate the fact that Power and Water has performed this analysis itself and prefers not to provide it to ACIL Tasman or the Commission.

5.25 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;
- appear to have estimated depreciation; and
- did not separate out the depreciation on the rolled forward asset base and new additions each year.

5.26 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, results in a 24% decrease to the opening RAB in 2008/09. There is 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

5.27 For the purposes of this Draft Determination, the Commission accepts ACIL Tasman’s estimate of the 2008/09 opening RAB value of \$458.4 million.

5.28 No adjustments have been 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 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.

5.29 However, the Commission assumes that the capital expenditure values submitted by Power and Water in its IRP are gross capex. While the model submitted by Power and Water’s implies that there have not been any asset disposals or capital contributions since 2002, there is evidence that Power and Water has disposed of some assets since

2002. The RAB roll forward submitted by Power and Water as part of its 2006/07 Regulatory Accounts includes \$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.

5.30 The Commission is 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 is 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.

5.31 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 control period).

5.32 As shown in Table 5-4, 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 5-4
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

5.33 The 2008/09 amount of the 'indexation of the year's opening RAB value' component of the RAB roll forward also 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.

Commission's draft decision

5.34 The Commission approves 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.

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

Amendment 5-1

5.36 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 demonstrates to the Commission's satisfaction are consistent with application of the November revised Po adjustment model and all related requirements elsewhere in this Draft Determination.

5.37 In order to demonstrate to the Commission's satisfaction that proposed alternative values are consistent with application of the November revised Po adjustment model, Power and Water must correctly fill out 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.

2008/09 return on new capital

Requirements of final methodology decision

5.38 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 $((1 + \text{pre-tax nominal WACC})^{0.5} - 1)$.

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

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

5.41 The Final Methodology Decision did not explicitly state the requirements to be met by the 2008/09 net capex 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 will 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 proposal

5.42 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.

5.43 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)

5.44 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

5.45 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)

5.46 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

5.47 The 2008/09 capex figure of \$56.6 million included in the 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 represents an average annualised increase of 36% on the \$22.4 million level in 2005/06.

5.48 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

5.49 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

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

5.51 In addition, Power and Water advised the Commission of its intention to submit an updated estimate of 2008/09 gross capital expenditure in its revised regulatory proposal. The revised estimate will 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)

5.52 In its submission, the NTMEU argued that the Commission should be cautious about accepting Power and Water's 2008/09 gross 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)*

5.53 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.

5.54 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)

5.55 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 are 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

5.56 Power and Water's latest estimate of gross capex in 2008/09 is a matter for its revised regulatory proposal. Because Power and Water has flagged that its estimate is not yet settled, the Commission needs to step back from approval of the IRP estimate.

5.57 The Commission foreshadows, however, that it is 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 is 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 expects to deal with these particular issues via a cost pass through application once the third regulatory period commences. The Commission will ensure that such a consideration can be triggered under the cost pass through arrangements to be approved.

Commission's draft decision

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

Amendment 5-2

5.59 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 demonstrates to the Commission's satisfaction is consistent with the November revised Po adjustment model and all related requirements in the Final Methodology Decision and elsewhere in this Draft Determination.

2008/09 return of capital

Requirements of final methodology decision

5.60 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.

5.61 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 proposal

5.62 Power and Water's proposed depreciation amount for 2008/09 is \$18.0 million.

5.63 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.

5.64 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.

5.65 Power and Water explained its calculations as follows:

- “ • *Depreciation for the 2007-08 year 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 as comprising depreciation on the capital expenditure during 2007-08 and depreciation on half of the capital expenditure in 2008-09.”* (p.63)

5.66 Power and Water's 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:*
 - o *A straight line approach to depreciating its individual assets; and*
 - o *Remaining and useful asset lives that were approved by the Commission and determined by SKM.”* (pp.63-64)

Consultant's recommendation

5.67 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 was \$16.0 million.¹⁸

"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)

5.68 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

5.69 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

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

5.71 As shown in Table 5-7, the overall impact of these two adjustments is a 2008/09 return on capital that is 10.8% below the figure proposed by Power and Water in its IRP.

Table 5-7
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

5.72 The Commission is not satisfied that the IRP as submitted meets the requirements established in the Final Methodology Decision in relation to the 2008/09 return of capital component. The Commission requires the following change to the regulatory proposal before it is prepared to approve any revised regulatory proposal:

¹⁸ 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.

Amendment 5-3

5.73 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 5-8 below:

Table 5-8
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 demonstrates to the Commission's satisfaction are consistent with the November revised Po adjustment model and all related requirements elsewhere in this Draft Determination.

2008/09 operating expenditure

Requirements of final methodology decision

5.74 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 X₂ value underlying the X factor as determined by the Commission; and
- Power and Water's approved cost allocation procedures.

5.75 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.

5.76 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 X₂ 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 X₂ 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 adjustment factor. The intention of this was to ensure absolute consistency with the finalised X₂ value.

Power and Water's proposal

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

5.78 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)

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

Consultants’ recommendations

Opex reasonableness assessment

5.80 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 forecasts 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.

5.81 In response to its inquiries, ACIL Tasman subsequently established that the large increase in opex between 2007/08 actuals and 2008/09 forecasts is mostly due 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.¹⁹

5.82 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 the 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)

5.83 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 reduces the 2008/09 operating expense attributed to Regulated Networks by \$0.5 million.²⁰

5.84 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.

5.85 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 is mainly a consequence of Power and Water's frequent changes to accounting policies:

"Generally Power and Water have 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)

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

5.87 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;²¹
- 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
- removing a corporate allocation of tax from Networks in 2004/05.

Opex efficiency and prudence assessment

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

¹⁹ 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.

²⁰ ACIL Tasman, pp.13-14.

²¹ In 2006/07, Technology Services' loss was allocated to business units at the end of the financial year.

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

<i>Factors causing extraordinary opex</i>	<i>PWPN claim</i>	<i>GHD Meyrick acceptance</i>
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

5.89 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 apply only to Power and Water's distribution operations.

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

5.91 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%.

5.92 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)

5.93 It was therefore GHD Meyrick's recommendation that the remaining 16.9 percentage points of the identified efficiency gap should be incorporated in the P_0 adjustment factor to be applied at the start of the third regulatory period.

Commission's initial assessment

5.94 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.

5.95 In addition, Power and Water's application of the P_0 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).

5.96 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%.

5.97 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.

5.98 The resultant adjustments to the figure proposed by Power and Water are summarised in Table 5-9.

Table 5-9
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

5.99 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])

5.100 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.

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

5.102 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)

5.103 Secondly, Power and Water argues that a “bottom-up” assessment of opex efficiency is 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)

5.104 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)

5.105 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)*

5.106 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)*

5.107 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)

5.108 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)

5.109 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.

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

5.111 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 than 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)

5.112 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)

5.113 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 is 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)*

5.114 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 is 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)

5.115 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

5.116 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.

5.117 Clearly, they both can't be right.

5.118 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*.

5.119 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.

5.120 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, reinforce the Commission's approach and judgments as revealed in the initial draft determination.

5.121 In summary, the Commission is satisfied that the GHD Meyrick analysis is 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 maintains this view for a range of reasons as summarised below.

5.122 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.

5.123 Regarding the relative merits of bottom-up benchmarking (Power and Water's favoured approach) and top-down benchmarking (GHD Meyrick's approach), the Commission considers that bottom-up benchmarking has 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 judgements and are not reproducible.

5.124 The four comparators chosen by GHD Meyrick seem 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.

5.125 As to Power and Water's other specific criticisms of 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.

5.126 The GHD Meyrick approach is, 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.

5.127 Consistent with the *National Electricity Rules*' emphasis on the efficiency and prudence of total forecast operating expenditure, the GHD Meyrick exercise:

- recognises 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
- relies on quantitative operating environment effect estimates supplied by Power and Water.

5.128 As to GHD Meyrick's database based on benchmarking studies undertaken by Meyrick over time, the Commission accepts 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.

5.129 Contrary to Power and Water's inference or assertions:

- about 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;
- about 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 its own benchmark 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.

5.130 In some important respects, Power and Water's submission is 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 prudence of expenditure forecasts in its Statement of Regulatory Principles²², with the three step approach quoted by Power and Water in fact relating to capex, not opex; and

²² ACCC, *Statement of Principles for the Regulation of Electricity Transmission Revenues*, December 2004.

- 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.

5.131 For these reasons taken together, the Commission is 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

5.132 The Commission is not satisfied that the IRP as submitted meets the requirements established in the Final Methodology Decision in relation to the 2008/09 efficient opex amount. The Commission requires the following changes to the regulatory proposal before it is prepared to approve any revised regulatory proposal:

Amendment 5-4

5.133 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 5-10 below:

Table 5-10
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 demonstrates to the Commission's satisfaction are consistent with the November revised Po adjustment model and all related requirements elsewhere in this Draft Determination.

Amendment 5-5

5.134 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;
- or a percentage factor which Power and Water demonstrates to the Commission's satisfaction is an appropriate percentage based on additional information and estimates on the adverse operating conditions faced by Power and Water relative to its peers.

2008/09 actual revenue

Requirements of final methodology decision

5.135 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 proposal

5.136 Power and Water’s proposed actual revenue for 2008/09 is \$76.0 million.

5.137 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

5.138 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)

5.139 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

5.140 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 assessment

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

5.142 The Commission has undertaken 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 5-11.

Table 5-11
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.

5.143 Using these revenue figures results in estimated actual revenue in 2008/09 which is some 5% above Power and Water's proposed amount as summarised in Table 5-12:

Table 5-12
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

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

Amendment 5-6

5.145 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 5-13 below:

Table 5-13
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 demonstrates to the Commission's satisfaction are consistent with the November revised Po adjustment model and consistent with all related requirements elsewhere in this Draft Determination.

Po adjustment factor

Requirements of final methodology decision

5.146 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.

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

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

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 proposal

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

5.149 The calculation of this proposed Po value is summarised in Table 5-14.

Table 5-14
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
<i>plus</i> Return on New Capital	1,989
<i>plus</i> Return of Capital (Depreciation)	17,978
<i>less</i> Holding Gains	-18,187
<i>plus</i> Efficient Operating Expenditure	57,570
Total Required Revenue	122,684
Estimated Revenue	76,034
Proposed Po adjustment factor	61.4%

5.150 Power and Water has acknowledged that its proposed Po adjustment factor implies 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)

5.151 Power and Water has further argued that the very significant Po adjustment factor which it has 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)*

5.152 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)

5.153 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)*

5.154 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

5.155 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 is a significant reduction in the Po adjustment factor, the fact of the matter is that the Po value as estimated by the Commission of 24.4% would still involve a very substantial increase in network tariffs.

5.156 The Commission stated that it was far from comfortable with such a significant Po value.

5.157 It therefore took a closer look at the reasons giving rise to such a large Po value. 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?

5.158 If Power and Water is to be believed, it is all the Commission’s fault – and the Commission’s myopia at the time of the 2004 Reset.

5.159 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% Po value, with responsibility for the remaining 21 percentage points lying squarely with Power and Water itself.

5.160 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.

5.161 Table 5-15 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 this Draft Determination.

Table 5-15
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%

5.162 It is evident from Table 5-15 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.

5.163 Table 5-16 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 this Draft Determination.

Table 5-16
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%

5.164 Once again, as is evident from Table 5-16, 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.

5.165 Table 5-17 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 5-17
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%

5.166 It is evident from Table 5-17 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%.

5.167 The Commission does, 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 5-18.

Table 5-18
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.

5.168 The Commission accepts that it must take primary responsibility for the shortfall evident in Table 5-18.

5.169 The Commission has examined the sources of this shortfall. Three general factors were at work.

5.170 First, the Commission recognises 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 X₁ component of the CPI-X price path. In the 2004 Reset, Meyrick was involved only in estimating the X₂ 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 5-19 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 5-19
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.

5.171 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 5-20.

Table 5-20
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.

5.172 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 has 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 5-21 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 5-21
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.

5.173 In summary, it is evident from Table 5-18 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.

5.174 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.

5.175 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 5-17, it is evident that Power and Water's under-estimation of its own operating and capital expenditures is 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.

5.176 Hence, the Commission accepts responsibility for about 15% of the 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

5.177 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.

5.178 In addition to the changes listed earlier in this chapter, 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 is prepared to approve any revised regulatory proposal.

Amendment 5-6

5.179 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 – must 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 5-15 and 5-16 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.

5.180 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 considers 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

5.181 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)

5.182 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)

5.183 Finally, Power and Water claimed that its modelling indicates that the Po adjustment proposed does 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)*

5.184 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)

5.185 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 Commission’s draft determination does 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

5.186 The various adjustments and corrections required by the Commission and documented so far in this report together give rise to a Po adjustment factor of 25.5%, compared with Power and Water’s proposal of 61.4%.

5.187 Power and Water’s proposed Po adjustment factor is reconciled with the lower Po value estimated by the Commission in Table 5-22.

Table 5-22
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%	

5.188 Table 5-23 provides a comparison of the makeup of the Commission's Po estimate and Power and Water's proposal.

Table 5-23
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	63,334	47,894
<i>plus</i> Return on New Capital	1,989	2,850
<i>plus</i> Return of Capital (Depreciation)	17,978	16,031
<i>less</i> Holding Gains	-18,187	-13,753
<i>plus</i> 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%

5.189 As to Power and Water's arguments in its submission on the initial draft determination, the Commission fails 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)

5.190 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.

5.191 And to compound the problem, Power and Water has 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 are substantial, as shown in Table 5-24.

Table 5-24
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

5.192 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.

5.193 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.

5.194 Finally, the Commission has not sighted Power and Water’s latest scenario work, which clearly has only been undertaken very recently, at odds with what was implied in the IRP.

5.195 Nevertheless, the Commission is prepared to step back from the formulation of Amendment 5-6 in the initial draft determination, and to replace it with an amendment that requires Power and Water – if it seriously wishes 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.

5.196 Only if Power and Water is prepared to provide such information and the necessary supporting documentation can the Commission, when developing and making its Final Determination, give further consideration to whether the proposed Po adjustment is sufficient to ensure that the regulated networks business of Power and Water remains financially sustainable. The requested information will also provide a baseline for the Po adjustment review foreshadowed towards the end of the third regulatory period.

Commission's revised draft decision

5.197 The Commission is not satisfied that the IRP as submitted meets the requirements established in the Final Methodology Decision in relation to the Po adjustment factor.

5.198 In addition to the changes listed earlier in this chapter, and in view of the unprecedented magnitude of the Po adjustment factor, the Commission also requires two further amendments with respect to the Po adjustment factor before it is prepared to approve any revised regulatory proposal:

Amendment 5-7

5.199 The revised regulatory proposal must be accompanied by a fully completed version of the November revised Po 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.

Amendment 5-8

5.200 If Power and Water wishes 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 control 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.

CHAPTER

6

**OTHER ASPECTS OF THE
INITIAL REGULATORY PROPOSAL****Introduction**

6.1 As required by the Final Methodology Decision, besides a proposed Po adjustment factor (as discussed in chapter 5), the initial regulatory proposal (“IRP”) submitted by Power and Water also included:

- a draft Network Pricing Principles and Methods Statement to apply to the setting of individual prices;
- for the regulatory year commencing 1 July 2009, the proposed Network Tariff Schedules consistent with all other elements of the regulatory proposal (the ‘initial pricing proposal’);
- a proposed Po adjustment factor for standard control services; 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 matters raised in Power and Water’s initial regulatory proposal.

Network pricing principles and methods***Requirements of 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 is 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 proposal

6.6 In chapter 12 of the IRP, 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 and therefore its pricing principles and methods 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 considers that this will 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 assessment

6.11 The Commission is unable to make a comprehensive assessment of Power and Water's pricing principles and methods until Power and Water submits its draft Pricing Principles and Methods Statement.

6.12 The Commission acknowledges that some of Power and Water pricing principles and methods are by necessity included in Power and Water's justification in chapter 12 of the IRP. Nevertheless, 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 is essential, consistent with clause 75(5) of the NT Code.

6.13 For the avoidance of any doubt, 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 The 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 is to deal 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 Commission has taken steps in its Final Methodology Decision that ensure it will consider Power and Water's Network Pricing Principles and Methods Statement, and resultant prices, as an integral part of the 2009 Reset.

6.16 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.

6.17 Nevertheless, the Commission expects the introduction of new network tariffs or tariff components to be an infrequent occurrence. Frequent and extensive changes to tariffs and tariff structures are generally undesirable. The Commission 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

6.18 The Commission is not satisfied that the IRP as submitted meets the requirements established in the Final Methodology Decision in relation to the network services pricing principles and methods statement. The Commission requires the following changes to the regulatory proposal before it is prepared to approve any revised regulatory proposal:

Amendment 6-1

6.19 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

6.20 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

6.21 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.

Initial pricing proposal

Requirements of final methodology decision

6.22 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.

6.23 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 following section.

6.24 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.

6.25 The Final Methodology Decision indicated that the Commission would approve Power and Water's annual pricing proposal for standard control services if the Commission is 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.

6.26 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 proposal

6.27 Power and Water submitted proposed Network Tariff Schedules as part of its IRP. Power and Water also set out the weighted average revenue for 2008/09 and expected revenue for each tariff class for 2009/10.

6.28 The only changes proposed by Power and Water to its current pricing structure are 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)*

6.29 Power and Water stated that its proposed Network Tariff Schedules for 2008/09 are consistent with the price control mechanism as determined by the Commission, and with the approved Network Pricing Principles and Methods Statement.²³

6.30 Power and Water advised that it had not sought to demonstrate compliance with the side constraint, as it did not know the final X factor.²⁴

Commission's assessment

6.31 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 proposal. The fact that the final X is not yet known was offset by the Final Methodology Decision nominating preliminary X factor components. Power and Water should be capable of demonstrating compliance of these resultant preliminary tariff schedules with the all aspects of the control mechanism other than the side constraint.

6.32 For the avoidance of any doubt, the Commission expects the revised regulatory proposal 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.

6.33 Consistent with the Part I of the *National Electricity Rules*, the Final Methodology Decision requires the submission of pricing proposals for both standard control services and alternative control services.

6.34 Following the publication of the Commission's Final Determination on 31 March 2009, Power and Water will 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

6.35 No views were expressed in submissions regarding the approach proposed in the initial draft determination regarding the initial pricing proposal.

Commission's draft decision

6.36 The Commission is not satisfied that the IRP as submitted meets the requirements established in the Final Methodology Decision in relation to the initial pricing proposal. The Commission requires the following change to the regulatory proposal before it is prepared to approve any revised regulatory proposal:

²³ IRP, p.83

²⁴ IRP, p.76

Amendment 6-4

6.37 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.

Alternative control services***Requirements of final methodology decision***

6.38 The Final Methodology Decision required Power and Water's regulatory proposal to include a proposed control mechanism for alternative control services.

6.39 The Final Methodology Decision indicated that the Commission will 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*.²⁵

6.40 As explained in chapter 3, the Commission has decided to group alternative control services between:

- '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').

Power and Water's proposal

6.41 Chapter 10 of Power and Water's IRP sets out its proposed treatment of alternative control services in relation to its proposed control mechanism and pricing methodology.

Fee based services

6.42 Power and Water proposed a schedule of fixed prices as its control mechanism for 'fee based services' types of alternative control services.

6.43 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.

6.44 Power and Water proposed to estimate the forward-looking costs of providing these services by:

²⁵ 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.

- “• 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

6.45 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.

6.46 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)

6.47 Power and Water submitted that this approach is 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 assessment

Fee based services

6.48 The Commission is broadly satisfied that Power and Water’s proposed control mechanism for ‘fee based services’ types of alternative control services complies with the requirements of clause 6.2.5 of the *National Electricity Rules*.

6.49 However, for the Commission to be able to accurately assess the methodology, Power and Water must outline the different types of activities that fall within the fee based services group, in similar detail to the descriptions in Table 3-1 in chapter 3.

6.50 Also, Power and Water must submit pricing proposals for both standard control services and alternative control services. In relation to fee based types of alternative control services, Power and Water must submit its proposed fee schedules.

Quoted services

6.51 The Commission is broadly satisfied that Power and Water's proposed control mechanisms for 'quoted services' types of alternative control services complies with the requirements of clause 6.2.5 of the *National Electricity Rules*.

6.52 The Commission acknowledges that it is not possible to set a fixed price for services where the scale and scope of each individual service is initially unknown.

6.53 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 is appropriate, with one exception. If the prices charged for these services are to be cost-reflective, Power and Water cannot 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 % markup needs to be unrelated to Power and Water's WACC and derived instead from a standard ratio between direct and indirect costs.

6.54 Also, for the Commission to approve this aspect of the regulatory proposal, the Commission requires that Power and Water outline the different types of activities that fall within the quoted services group, in similar detail to the descriptions in Table 3-1 in chapter 3.

6.55 Power and Water must submit pricing proposals for both standard control services and alternative control services. In relation to quoted types of alternative control services, Power and Water should set out its pricing methodology.

Views in submissions on the initial draft determination

6.56 No views were expressed in submissions regarding the approach proposed in the initial draft determination regarding the control mechanism for alternative control services.

Commission's draft decision

6.57 The Commission approves the pricing rule element of the price control mechanism proposed for 'fee-based services' types of alternative control services, on the basis that it complies with the requirements of clause 6.2.5 of the *National Electricity Rules*.

6.58 However, the Commission is not satisfied that the IRP as submitted meets other requirements established in the Final Methodology Decision in relation to the control mechanism for alternative control services. The Commission requires the following changes to the regulatory proposal before it is prepared to approve any revised regulatory proposal:

Amendment 6-5

6.59 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 3-1 in chapter 3.

Amendment 6-6

6.60 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 3-1 in chapter 3.

Amendment 6-7

6.61 The proposed control mechanism for 'quoted services' types of alternative control services cannot include a WACC-based markup on direct labour and materials costs.

Negotiated network services

Requirements of final methodology decision

6.62 The Final Methodology Decision required Power and Water's regulatory proposal to include a proposed negotiating framework for negotiated services.

6.63 The Final Methodology Decision required that the proposed negotiating framework must be consistent with:

- the applicable requirements of this Final 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 proposal

6.64 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

6.65 No views were expressed in submissions regarding the approach proposed in the initial draft determination regarding the control mechanism for negotiated network services.

Commission's draft decision

6.66 As Power and Water did not propose any negotiated services, no negotiating framework will apply for the third regulatory period.

Cost pass through

Requirements of final methodology decision

6.67 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.

6.68 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 can (if it wishes) propose any additional types of cost pass through events which it considers should apply, for the Commission's consideration and possible approval.

Power and Water's proposal

6.69 Power and Water has 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.²⁶

6.70 Power and Water considers 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 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 assessment

6.71 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.

6.72 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 considers provision for appropriate cost pass throughs to be an important component of the overall regulatory framework.

6.73 That said, it is important that such events are:

- 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.

²⁶ IRP pp.72-75

6.74 Provided they are subject to a materiality threshold, the Commission considers that cost pass throughs associated with the following proposed pass through events meet these requirements:

- *force majeure* event; and
- compliance events.

6.75 However, 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) is more problematic.

6.76 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.

6.77 Any future structural separation of Power and Water or similar reforms is a matter for the NT Government as owner of Power and Water.

6.78 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.

6.79 In order for Power and Water's proposed revised Regulatory Proposal to be approved, Power and Water must:

- 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

6.80 In its submission, Power and Water elaborated on its proposed approach with regards to cost pass through events. These views did not specifically address the Commission's initial draft determination, and are more appropriate for inclusion in the forthcoming revised regulatory proposal.

Commission's draft decision

6.81 The Commission is not satisfied that the IRP as submitted meets the requirements established in the Final Methodology Decision in relation to the cost pass through arrangements. The Commission requires the following change to the regulatory proposal before it is prepared to approve any revised regulatory proposal:

Amendment 6-8

6.82 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.

Service target performance incentive scheme

Requirements of final methodology decision

6.83 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 proposal

6.84 Power and Water did not propose a service target performance incentive scheme in its regulatory proposal.

Commission's initial draft decision

6.85 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 will apply for the third regulatory period.

Views in submissions on the initial draft determination

6.86 In its submission, the NTMEU strongly urged that the Commission 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

6.87 The Commission notes the disappointment expressed by the NTMEU in relation to the initial draft determination postponing introduction of a service target performance incentive scheme.

6.88 The Commission recognises that events surrounding the major outages in the northern suburbs of Darwin in September and October 2008 reinforce 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 will be suggesting that the NT Government consider establishing guaranteed service levels for non-contestable customers, and guaranteed service level (GSL) incentive payments. The Commission does not have the powers necessary to introduce such arrangements in the Territory.

6.89 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.

6.90 All that the Commission could contemplate additionally at this stage is 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 considers that implementing service performance target

incentive schemes should not be rushed or ill-considered. It therefore 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

6.91 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 Commission will instead institute a 'paper trial' of a service incentive (s-factor) scheme covering the third regulatory period before introducing actual monetary incentives at the next reset.

Demand management scheme

Requirements of final methodology decision

6.92 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.

Power and Water's proposal

6.93 Power and Water did not propose a demand management scheme in its regulatory proposal.

Views in submissions on the initial draft determination

6.94 No views were expressed in submissions regarding the approach proposed in the initial draft determination regarding a demand management scheme.

Commission's draft decision

6.95 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.