2009 NETWORKS REGULATORY RESET

INITIAL REGULATORY PROPOSAL

1 JULY 2009 TO 30 JUNE 2014

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This Proposal contains 89 pages

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1 Executive Summary

This is Power and Water Corporation's (Power and Water) Initial Regulatory Proposal (Regulatory Proposal) to the Northern Territory Utilities Commission (the Commission) for the third regulatory control period. This period commences on 1 July 2009 and ends on 30 June 2014.

This Regulatory Proposal covers all of Power and Water's regulated networks, namely the Darwin/Katherine, Alice Springs and Tennant Creek networks. It relates to Power and Water's direct control services, which comprise standard control services and alternative control services.

With one notable exception, this Regulatory Proposal has been prepared based on the methodology specified in the Commission's "Networks Pricing 2009 Regulatory Reset - Price Control Mechanism - Final Decision Paper" (Final Decision Paper) issued in May 2008. The Final Decision Paper requires that Power and Water set out, both in this Regulatory Proposal and in a financial model provided to it by the Commission, cost "building blocks" for the 2008-09 year and estimated revenue for 2008-09, with the difference between these numbers being the initial price increase for the third regulatory control period (Po).

Power and Water's proposed Po adjustment factor has been based on independent asset valuations recently prepared by Sinclair Knight Merz (SKM), as opposed to the Commission's preferred roll-forward of the initial value of the regulatory asset base of $350 million as at 1 July 2002. 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. This Regulatory Proposal sets out clearly the importance of using the SKM valuation. This asset 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.

Power and Water's electricity network cost "building blocks" for the 2008-09 year total $140.9 million, comprising a return on assets of $65.3 million, depreciation of $18.0 million and operating and maintenance costs of $57.6 million. Power and Water's revenue from standard control network services in 2008-09 is expected to be $76.0 million. The Po for the third regulatory control period is therefore 85.28%.

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.

Power and Water has taken considerable care in this Regulatory Proposal to comply with the Final Decision Paper, including carefully setting out and justifying the 2008-09 capital expenditure and operating expenditure forecasts against the requirements of the National Electricity Rules. It has been able to provide detail on each capital expenditure project and each major line item of operating and maintenance expenditure for the Commission's information and assessment. To further aid the Commission, and to demonstrate consistency of projects and capability to deliver them, a similar detailed presentation of 2007-08 capital expenditure by project has also been provided as an Appendix.

The Po in this Regulatory Proposal will provide sufficient revenue in 2009-10 for Power and Water to meet its prudent costs in 2008-09. It does not provide any means, other than through the X factor for tariff escalation, for meeting the costs of future works during the regulatory control period if those costs outstrip demand growth. The Regulatory Proposal presents evidence that the base year assessment of the 2008-09 cost building blocks will not allow Power and Water to recover sufficient revenue to meet its forward looking capital and operating expenditure obligations. Power and Water looks forward to these issues being resolved as part of the establishment of the X factor, as foreshadowed in the Final Decision Paper.

2 Introduction

2.1 Purpose of this Document

This is Power and Water's Initial Regulatory Proposal (Regulatory Proposal) to the Northern Territory Utilities Commission (Commission) for the third regulatory control period. This period commences on 1 July 2009 and ends on 30 June 2014.

This Regulatory Proposal covers all of Power and Water's regulated networks, namely the Darwin/Katherine, Alice Springs and Tennant Creek networks.

This Regulatory Proposal relates to Power and Water's direct control services, which comprise standard control services and alternative control services. It has been developed in accordance with, and complies with the relevant requirements of:

- The Commission's "Networks Pricing 2009 Regulatory Reset - Price Control Mechanism - Final Decision Paper" (Final Decision Paper) issued in May 2008;
- The Northern Territory regulatory and legislative framework including the *Electricity Networks* (*Third Party Access) Act 2000* (Electricity Act) and the *Electricity Networks (Third Party Access) Code* (Access Code);
- Chapter 6 of the National Electricity Rules (Rules) where applicable; and
- Various other regulatory obligations or information instruments published by the Commission, including the Commission's Po Adjustment Model.

2.2 Classification of Power and Water's Services

Appendix A of the Commission's Final Decision Paper includes a default services classification based on its 2004 "Excluded Services Determination", but expressed in the terminology of the services classification used by the Rules.

Paragraph 2.3 of the Final Decision Paper required Power and Water to lodge a services classification proposal with the Commission by 30 June 2008, in accordance with the classification in Part B Division 1 of the Rules, if it was seeking to propose a different classification from that in Appendix A.

On 30 June 2008, Power and Water submitted a proposal to the Commission to classify its services in line with the default services classification in Appendix A of the Final Decision Paper with one exception. Above-standard connection services and other quoted services were proposed to be classified as alternative control services.

In accordance with paragraph 2.4 of its Final Decision Paper, the Commission issued an Interim Approval of Power and Water's service classification proposal in July 2008, 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.

Power and Water accepted the first amendment, however contacted the Commission shortly after the Interim Approval to request that the Commission reconsider the classification of disconnections and reconnections as a standard control service to an alternative control service.

The underlying basis for Power and Water's request was 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.

Power and Water advised the Commission that its Interim Approval, if allowed to stand, would mean that these services would need to be included in the tariff basket and re-balanced each year (if a charge is to be levied), or not charged to retailers. The Commission informally advised that it was sympathetic to these arguments but has not yet made a Final Decision.

Without a Final Decision on this matter, Power and Water has assumed that its services will be classified in the third regulatory control period as follows:

- Contestable networks engineering consulting services will be unregulated;

- Conveyance services, comprising conveyance of electricity to connection points within regulated areas in the Northern Territory, will be standard control services;

- Power and Water's current excluded services – also termed "miscellaneous services" and including maintenance for streetlights – will be classified as alternative control services and regulated under a "schedule of fees" price control. This form of price control means that a fee will be quoted to the customer once the service has been scoped, not set in advance as for other services; and

- Above-standard connection services and other quoted services (including high load escort services and disconnections and reconnections) will be classified as alternative control services and regulated under a "schedule of fees" price control.

This Regulatory Proposal applies this services classification.

2.3 Commission's Letter of 15 August 2008

On 15 August 2008, the Commission wrote to Power and Water expressing concern that Power and Water's response to the GHD-Meyrick X factor consultancy indicated that:

- The 2003 Power Networks operating and maintenance (O&M) amounts in Power and Water's response to the recent data request was about 25% higher than the 2003 amount submitted by Power and Water for Meyrick's 2004 benchmarking study and for the 2004 Reset calculations ($38 million compared to $31 million); and

- The average annual growth rate of Power Networks' O&M over the period 2003-2007, in Power and Water's response to the recent data request, is around 10% (rising from $38 million in 2003 to $55 million in 2007).

The Commission's letter noted that:

- "*While much of the necessary documentation and explanation might be expected as part of Power and Water's forthcoming Initial Regulatory Proposal, …..it needs to be matched by the quality of information supplied by Power and Water directly to Meyrick's as part of the parallel exercise associated with quantifying the X factor components, which Power and Water has been party to over recent months*"; and

- "*It is essential that these data and documentation deficiencies be addressed by Power and Water in conjunction with the Initial Regulatory Proposal. Any of the information and explanations still being sought by Meyrick's that are not due for inclusion in the Initial Regulatory Proposal must be provided to Meyrick's (and the Commission) at the same time (no later) as the Initial Regulatory Proposal*".

There is only one requirement in the Final Decision Paper that relates to this Regulatory Proposal, and that is in relation to the X factor. This is in paragraph 2.24 of the Final Decision Paper which requires that Power and Water must ensure that operating expenditure estimates are calculated consistent with the manner used to calculate the X_2 value underlying the X factor as determined by the Commission. Power and Water has met this requirement.

Power and Water understood from the Final Decision Paper that it is the Commission which will be estimating the X factor to be applied over the next regulatory control period, based on information provided by its consultants. To that end, the Commission provided a preliminary X factor calculation in its Final Decision Paper but did not seek comments on this from Power and Water.

Power and Water will continue to provide whatever information is required from the Commission's consultants in order to assist the Commission to set an appropriate, justifiable and realistic X factor which is above challenge. In addition to information already provided, section 6 addresses information sought by the Commission's consultants to date.

2.4 Structure of this Regulatory Proposal

This Regulatory Proposal is structured as follows:

- Section 3 details Power and Water's understanding of the regulatory requirements for this Regulatory Proposal based on the Final Decision Paper and explains how it complies with these requirements;
- Section 4 provides relevant background information about Power Networks' business and operating environment;
- Section 5 details background information about the economic regulation of Power Networks in the current (i.e. second) regulatory control period that is relevant to this Regulatory Proposal for the third regulatory control period;
- Section 6 provides a detailed justification of Power Networks' forecast operating expenditure for 2008-09 against the requirements of the Rules;
- Section 7 provides a detailed justification of Power Networks' forecast capital expenditure for 2008-09 against the requirements of the Rules;
- Section 8 explains Power Networks' proposal in respect of the asset base valuation for standard control services over the third regulatory control period;
- Section 9 sets out the information that Power Networks must provide in this Regulatory Proposal to determine the Po adjustment factor for its standard control services;
- Section 10 sets out the information that Power Networks must provide in this Regulatory Proposal in relation to its alternative control services;
- Section 11 sets out the additional cost pass through provisions that Power Networks is seeking to have included in the regulatory determination for the third control period;
- Section 12 sets out Power Networks' Draft Network Pricing Principles and Methods Statement;
- Section 13 sets out Power Networks' initial pricing proposal for its standard control services for 2009-10;
- Appendix A provides a detailed explanation of Power Networks' forecast capital expenditure for 2008-09;
- Appendix B provides a detailed explanation of Power Networks' capital expenditure for 2007-08; and
- Appendix C provides a copy of SKM's Power Networks Asset Verification and Valuation Report.
- Appendix D is the Commission's Po Adjustment Model submitted in conjunction with this Regulatory Proposal.

3 Regulatory Requirements for this Regulatory Proposal

Consistent with paragraphs 2.22 and 3.35 of the Final Decision Paper, where a matter has not been dealt with in the Final Decision Paper, Power and Water has complied with:

- The Access Code, where the matter has been dealt with in the Access Code;
- Chapter 6 of the Rules, where the matter has been dealt with in the Rules but has not been dealt with in the Access Code; and
- The pricing principles in the Access Code, where the matter has not been dealt with either in the Access Code or the Rules.

3.1 Scope and Timing of this Regulatory Proposal

Power and Water has met the following requirements of the Final Decision Paper in relation to the scope and timing of this Regulatory Proposal:

- Paragraph 2.5 requires Power and Water to submit an Initial Regulatory Proposal to the Commission by 22 August 2008. Power and Water has complied with this requirement by submitting this Regulatory Proposal by this date;
- Paragraph 2.6 requires that this Regulatory Proposal must:
  - Cover all of Power and Water's regulated networks. This Regulatory Proposal covers each of the Darwin/Katherine, Alice Springs and Tennant Creek networks; and
  - Include separate proposed prices for each regulated network. Section 13 of this Regulatory Proposal sets out Power and Water's initial pricing proposal for its standard control services for the three regulated networks for 2009-10.
- Paragraph 2.7 requires that this Regulatory Proposal must:
  - Include all elements specifically required by the Final Decision Paper. This section explains how Power and Water has met this requirement; and
  - Identify any confidential information that is not suitable for publication. Power and Water will provide a copy of this Regulatory Proposal with confidential information removed, and therefore suitable for publication.

3.2 Requirements for Standard Control Services

Power and Water has met the following requirements of the Final Decision Paper in this Regulatory Proposal in relation to its standard control services:

- Paragraph 2.18 – Power and Water has prepared this Regulatory Proposal in accordance with the Final Decision Paper, any other regulatory information instruments and its approved services classification. The only non-compliance relates to the use of an asset valuation undertaken by Sinclair Knight Merz (SKM) rather than as required under paragraph 5.39 of the Final Decision Paper;

- Paragraph 2.19 – Power and Water's proposed Po adjustment factor has been calculated in accordance with the Commission's Po Adjustment Model and complies with all additional requirements issued by the Commission. The only non-compliance relates to the use of an asset valuation undertaken by SKM rather than an asset valuation in accordance with paragraph 5.39 of the Final Decision Paper;

- Paragraph 2.24 – Consistent with the requirements under this paragraph and the Commission's Po Adjustment Model, Power and Water has:

    - Applied the parameter values with respect to a pre-tax rate of return as specified by the Commission in paragraph 2.27 of the Final Decision Paper. In accordance with paragraph 5.31 of the Final Decision Paper, the other rate of return parameters have been calculated in accordance with Chapter 6 of the Rules;

    - Prepared its annual depreciation expense to conform with the requirements of clause 6.5.5(b) of the Rules;

    - Calculated and justified its operating expenditure forecasts in accordance with clause 6.5.6(c) of the Rules, the manner used by the Commission to calculate the value of X_2 and Power and Water's approved cost allocation procedures. Section 6 of this Regulatory Proposal sets out how Power and Water has complied with these requirements; and

    - Ensured that its estimates of annual revenue are consistent with the Access Code's pricing principles and the requirements of the Final Decision Paper;

- Paragraph 2.19 – Consistent with the requirements under this paragraph of the Final Decision Paper:

    - Power and Water has provided a draft Network Pricing Principles and Methods Statement to apply to the setting of individual prices. Section 12 of this Regulatory Proposal provides this statement;

    - Power and Water's draft Network Pricing Principles and Methods Statement complies with the applicable requirements of the Final Decision Paper, the Access Code and clauses 6.18.3, 6.18.4 and 6.18.5 of the Rules;

    - Power and Water has proposed Network Tariff Schedules for the regulatory year commencing 1 July 2009, consistent with all other

elements of the Regulatory Proposal. Section 13 of this Regulatory Proposal provides these schedules; and

- Power and Water's proposed Network Tariff Schedules comply with the Commission's price control mechanism for standard control services and are in all other respects consistent with the draft Network Pricing Principles and Methods Statement. This is also required by paragraph 2.26 of the Final Decision Paper.

- Paragraph 7.42 – Consistent with the requirements under this paragraph of the Final Decision Paper and section 6.18.2(b) of the Rules, section 13 of this Regulatory Proposal:

  - Sets out Power and Water's proposed Network Tariff Schedules for direct control services, including the tariff classes that are to apply for 2009-10, the proposed tariffs for each tariff class and, for each proposed tariff, the charging parameters (i.e. the constituent elements of a tariff) and the elements of service to which each charging parameter relates;

  - Describes the nature and extent of change in the proposed Network Tariff Schedules from the tariffs applying in 2008-09; and

  - Demonstrates compliance with the Final Decision Paper and the Draft Network Pricing Principles and Methods Statement.

- Paragraph 2.8 – Sections 8 and 9 of this Regulatory Proposal provide details, and an explanation, of all amounts, values and inputs relevant to the calculation of the Po adjustment factor and the initial pricing proposal, together with a demonstration that they comply with the requirements of the Final Decision Paper.

- Paragraph 2.26 – This paragraph specifies certain requirements in relation to the way in which the price control must be applied for standard control services. Sections 12 of this Regulatory Proposal details how Power and Water has complied with these requirements, being:

  - Power and Water's weighted average prices for standard control services are the financial variable subject to price control;

  - The price control is applied through a tariff basket, which is the same as a weighted average price cap and has been applied in the second regulatory control period; and

  - An ex-ante building block assessment of Power and Water's forecast 2008-09 network costs and revenues is used to determine the Po adjustment to be applied at the start of the third regulatory control period.

- Paragraphs 5.58 and 5.64 – These paragraphs require Power and Water to specify the total annual revenue expected from all related network tariffs

during 2008-09. Power and Water has provided this information in section 13 of this Regulatory Proposal.

- Paragraph 2.9 – This allows Power and Water to propose a demand management scheme and a service target performance incentive scheme. Power and Water has elected not to propose either of these schemes in this Regulatory Proposal; and

- Paragraph 6.42 – This allows Power and Water to propose additional cost pass through events to apply with respect to standard control services during the next regulatory control period. Power and Water has proposed additional cost pass through events in section 11 of this Regulatory Proposal.

3.3 Requirements for Alternative Control Services

Paragraph 2.10 of the Final Decision Paper requires Power and Water to propose a control mechanism in relation to its alternative control services. Power and Water has provided this information in section 10 of this Regulatory Proposal. Consistent with paragraph 2.20 of the Commission's Final Decision Paper, Power and Water's control mechanism meets the requirements of clause 6.2.5 of the Rules.

3.4 Requirements for Negotiated Network Services

Paragraph 2.10 of the Final Decision Paper requires Power and Water to propose a proposed negotiating framework in relation to its negotiated network services. Power and Water does not have any negotiated network services and therefore has not proposed a negotiating framework.

4 Power Networks' Business and Operating Environment

4.1 Background to Power and Water

Power and Water:

- Is the sole provider of electricity, water supply and sewerage services to almost 80,000 customers across the Northern Territory – an area of more than 1.3 million square kilometres;
- Is a vertically and horizontally integrated electricity, water and sewerage business, with:
    - Electricity Network services, in both "regulated" and "unregulated" areas of the Northern Territory through its business unit, "Power Networks";
    - Electricity Generation services, including from generation facilities that it owns or that are owned by others and contracted to Power and Water;
    - Water and Sewerage services;
    - Retail electricity services to contestable customers, which are open to competition from other retailers; and
    - Retail electricity services to non-contestable customers, which use less electricity than a threshold amount per annum set by Government.
- Provides services across varying environments, from the tropics of the north to the deserts of Central Australia. With total assets of more than $1 billion, Power and Water is one of the largest businesses in the Northern Territory, employing more than 750 Territorians.

Power and Water became the Northern Territory's first Government Owned Corporation under the *Government Owned Corporations Act 2001* (GOC Act) on 1 July 2002. In accordance with the GOC Act, Power and Water's objectives are to:

- Operate at least as efficiently as any comparable business; and
- Maximise the sustainable return to the Territory on its investment in Power and Water.

The Shareholding Minister for Power and Water is appointed in accordance with section 8 of the GOC Act. The Shareholding Minister's powers and responsibilities include:

- Setting clear objectives for Power and Water, through the annually negotiated Statement of Corporate Intent (SCI);

- Tabling the SCI and the annual report; and
- Issuing directions after consulting the Board and requesting it to advise whether or not compliance with the direction would be in its best interests.

The Board of Power and Water is involved in strategic oversight, establishing the environment in which management will perform, holding management to account, and reporting to the Shareholding Minister. The Board:

- Sets strategic directions, objectives and targets for the business;
- Maintains awareness of the major risks involved in the business, and establishes procedures, systems and controls to manage risks;
- Monitors Power and Water's performance and the performance of management in implementing strategic directions and achieving objectives and targets;
- Ensures compliance in legal matters;
- Reviews its own performance and that of the CEO; and
- Reports to the Shareholding Minister.

The agreement between the Board and the Shareholding Minister in relation to expected operational and financial performance is set out in the SCI which is published each year. This sets out Power and Water's proposed strategies, risks, investment plans and performance targets. The Shareholding Minister approves the budget for the financial year to which the SCI relates and notes the financial projections for the following four years. The assumptions and financial projections in the SCI are also subject to independent external audit and assurance.

Stakeholders, including the Shareholding Minister, consider that the 2008-09 SCI builds on the improvements made in the 2007-08 SCI. The analysis of Power and Water's strategies, risks, financial projections and capital investment program was considered to be of a higher quality. Underlying internal financial projections, including balance sheets, were prepared and detailed in relevant Business Unit Plans.

An SCI Steering Committee, chaired by the Managing Director and comprising General Managers from all Business Units, as well as representation by Northern Territory Treasury, was responsible for preparing the 2008-09 SCI. High level oversight was provided at key stages by a new Board sub-committee, the Capital Investment, Asset Management and Fuel Supply Committee. As such, the SCI process now provides a rigorous basis for Power and Water's forecasts.

4.2 Power Networks

Power Networks is the largest business unit in Power and Water employing 225 staff including trades, technical, administration and engineering personnel. As advised to the Commission in June 2008, Power Networks was restructured following a review by Power and Water management and consultants from PricewaterhouseCoopers. The new structure is designed to provide a clearer

demarcation of duties between Power Networks' groups and improved allocation of staff and resources to realise greater efficiencies and improved service delivery outcomes for Power Networks' customers.

Power Networks operates under a Network Licence issued by the Commission which authorises it to:

- Own and operate an electricity network within the geographic area specified in Schedule 2 of that Network Licence as set out below; and
- Connect the electricity network to another electricity network, in accordance with the terms and conditions of the Network Licence.

Schedule 2 of the Network Licence[1] lists the regulated electricity network(s) covered by the Licence:

- Darwin (city, suburbs and surrounding rural areas);
- Katherine (township and surrounding rural areas);
- Darwin-Katherine Transmission Line (132kV) which extends from the network 132kV bus at Channel Island Power Station to a 132/22kV substation adjacent to the Katherine Power Station, with a 132/22kV substation at Manton and a 132/66kV substation at Pine Creek;
- Tennant Creek (township and surrounding rural areas); and
- Alice Springs (township and surrounding rural areas).

In servicing the customers in these areas, Power Networks supplies an area which is larger than that supplied by any other single network company in Australia. Its network:

- Is not connected to the national grid. It is a stand alone network with three interconnected systems;
- Has around 5,686 kilometres of lines, of which the largest system, Darwin/Katherine, accounts for around 4,710 kilometres of line;[2] and
- Operates in diverse climates, each of which brings with it unique challenges such as cyclones, over 22,000 lightning strikes a year, tropical storms with winds in excess of 100 kilometres per hour in the north, and dust storms and drought in Central Australia.

Power and Water's distribution network is summarised by voltage and type in the following table.

[1] Minor centres have been excluded from this list.

[2] As reported in the *Northern Territory Electricity Market* through the 2008 Annual Retail Licence Return.

Table 1: Power and Water's Network Assets

POWER AND WATER DISTRIBUTION ASSETS BY KM (2007-08)	
132kV Overhead	344
66kV Overhead	304
66kV Underground	17
33kV Overhead	55
HV Overhead (22/11kV and below)	2,806
HV Underground (22/11kV and below)	573
LV Overhead (22/11kV and below)	1,107
LV Underground (22/11kV and below)	480
Total	**5,686**

4.2.1 Related Party and Outsourcing Contracts

Power Networks' most important related party contract is its Service Level Agreement with Power and Water Retail, which is the agreement by which Retail purchases the transportation of electricity through the networks, and other services such as disconnections and reconnections, for its contestable and non-contestable customers.

Power Networks uses external contractors for some aspects of the delivery of its capital and operating expenditure. It has a panel contract arrangement in place from which it selects companies for design, civil works and construction works with a value of less than $1 million, and publicly tenders contracts larger than this amount in line with the Northern Territory Government's procurement procedures framework. This framework is administered by the Northern Territory Department of Corporate and Information Services (DCIS) and comprises the *Procurement Act 1995*, Procurement Regulations and Amendments (March 2006), Procurement Directions and Northern Territory Procurement Code.

Some of Power and Water's significant outsourcing contracts include:

- A contract with MM Electrical for the supply and management of stores and materials for Power and Water's requirements; and
- A contract with Brelle for meter reading in Katherine, and a separate contract with Fieldforce for meter reading in Tennant Creek and Alice Springs.

These agreements can be made available to the Commission on request.

5 2004-05 to 2008-09 Regulatory Control Period

The Po adjustment factor in section 9 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. The purpose of this Chapter is to make 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.

5.1 2004 Determination Process

The 2004 Final Determination was the first time that the Commission applied a TFP type approach to Power and Water, and sought to identify and cost a "base year" to establish a Po (then termed a "Z factor") to apply to the weighted average of network tariffs. The Draft, and then Final Methodology Paper, contained the same method as currently being proposed for the third regulatory control period and detailed in the Final Decision Paper.

The Po ("Z factor") was calculated by undertaking a cost based "building block assessment" of 2003-04 costs. However, as the most recent actual available costs data was in fact 2002-03 data, a 2002-03 building block assessment was calculated and the 2003-04 building block derived by applying a growth factor, comprising CPI and an X factor.

Power and Water's submission to the Commission's Draft Methodology Paper in late 2003 flagged that:

- *A major risk (to this approach) lies in basing the costs on one single year (2003-04). This suggests a need to verify that the costs in this year are not atypical of that incurred by Power and Water generally. There are a number of ways to address this issue, including testing the robustness of the costs against the (independently verified) costs incurred by Power and Water in the five years prior to 2003-04. More broadly, and given the "lumpiness" of capital costs in a network business it is important that the Commission's approach be*

more cognisant of actual investment requirements than that set out in the Draft Methodology Decision;[3]

- *A mechanism needs to be put in place to ensure that the financial viability of Power and Water over time is given adequate consideration and that Power and Water is not subject to undue risks to its financial viability. This is particularly so in light of the potentially asymmetric nature of the risk created by the Commission's inclusion of a "building-block"-style assessment in 2009*[4,5]; and

- *…the regulatory approach falls short of providing a clear signal or a reasonable degree of certainty to Power and Water in planning for its future. This is particularly worrying in light of the growing expectation of the community for higher levels of service - which may put further pressure on Power and Water*. [6]

In particular, at the time the Northern Territory electricity market was growing rapidly and was unsuitable for the application of a TFP "base year" approach, as:[7]

- *the initial building blocks assessment for the base year will not be on the basis of reasonable parameters;*

- *the regulator undertakes insufficient checks, including consideration of revenue adequacy and cashflow impacts, of the proposed price capping methodologies once the draft numbers become known; and*

- *the Z factor (Po), the X factor and the Y factor are not linked in order to provide a revenue stream that equals (in present value terms) a reasonable assessment of Power and Water's revenue requirements.*

Power and Water's actual capital and operating expenditure and depreciation costs for the second regulatory control period are shown in the table below. In fact, those forecasts made in 2004 have proved to be more reliable than the 2004 Final Determination.

Table 2: Comparison of Actual Versus Decision Expenditure

Power Networks **Measure**	**2004 Determination $M**	**2004-05 Actual $M**	**2005-06 Actual $M**	**2006-07 Actual $M**	**2007-08 Actual $M**
Operations and Maintenance	***28.0***	42.7	35.8	44.2	49.3
Capital Expenditure	***6.05***	11.5	22.4	28.4	44.9
Depreciation	***23 (before Off-ramp)***	11.8	12.9	13.3	13.1

The table shows that:

[3] Power and Water Submission to Draft Methodology Paper, 2003, Executive Summary.

[4] Foreshadowed in paragraph 2.18 of the Commission's 2003 Draft Methodology Paper.

[5] Power and Water Submission to Draft Methodology Paper, 2003, Executive Summary.

[6] Power and Water Submission to Draft Methodology Paper, 2003, Executive Summary.

[7] Power and Water Submission to Draft Methodology Paper, 2003, Section 2.2.

- Power Networks' operating and maintenance 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; and

- Power Networks' capital expenditure has also increased significantly over the 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.

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.

5.2 TFP in New Zealand - A Different Methodology

In likening the TFP methodology in the Final Decision Paper to the application of TFP in New Zealand, the Commission omits some critical aspects of the wider New Zealand regime. The Final Decision Paper makes several references to the application of TFP in New Zealand and in particular:

- Paragraph 4.72 of the Final Decision Paper states that a productivity based approach formed the entire basis of the New Zealand thresholds regime for electricity distribution businesses; and

- Paragraph 4.81 of the Final Decision Paper states that other productivity regimes, such as that applying in New Zealand, allow for the inclusion of a diverse range of businesses by including a number of components to the X factor – much as the Commission is doing in the third regulatory control period.

The approach currently applying in New Zealand is significantly different to that proposed in the Final Decision Paper. The New Zealand CPI-X price path acts as a threshold screening mechanism to identify businesses whose performance may warrant further investigation and/or control[8]. The Commission's methodology, in contrast, uses it as a form of price control which caps the annual percentage change in the weighted average tariffs.

[8] The price path threshold is applied in conjunction with a quality threshold which acknowledges that there is a trade off between the price and quality of distribution services.

If a business breaches the threshold in New Zealand, by increasing its average price changes at an annual rate exceeding the change in CPI-X, then the New Zealand Commerce Commission (Commerce Commission) may apply a full forward looking building block for the purposes of realigning the businesses costs and revenues. The Commerce Commission does not however predetermine the methodology by which it will realign a business' costs and revenues. Before any of this happens, the business firstly has the opportunity to resolve the breach via an "administrative settlement" with the Commission.

If the New Zealand TFP approach had been applied to Power and Water in the second regulatory control period then:

- The CPI-X would have been applied as a price path threshold rather than a form of price control;
- Power and Water would have breached the threshold based on the divergence of its costs and revenues over the period shortly after the 2004 Final Determination, indicating that the threshold of 0.5% was not set at an appropriate level to allow Power and Water to recover its efficient costs; and
- The Commission would have been required to undertake a "post breach inquiry" for the purposes of realigning Power and Water's costs and revenues, perhaps through a full forward looking building block assessment.

The Commerce Commission's approach to calculating and applying the X factor is fundamentally different to that determined by the Utilities Commission in its Final Decision Paper. The Commerce Commission has used a comparative approach to allocate distribution businesses to four groups, with each group being assigned a different X factor. The X factors reflect distribution industry productivity as a whole, as well as relative distribution business productivity and profitability.

This recognises that individual businesses are likely to exhibit a range of productivity and profitability levels and must be adequately compensated for their long-run efficient costs.

5.3 Summary

The experience of the second regulatory control period is relevant and cautionary for both the Commission, its consultants and Power and Water. Prudent expenditure has grown faster than even Power and Water predicted at that time.

The Northern Territory electricity market is small, lacks scale, is expensive to operate and is supplying a growing resources and tourism service base. It is fundamentally unsuited to the application of a stable case TFP methodology alone.

Power and Water's response to the Commission's 2008 Draft Methodology Paper repeats the same concerns that it had in 2004, noting that the Commission's proposed methodology:[9]

[9] Power and Water response to Draft Methodology Paper, page 6, available at: http://www.nt.gov.au/ntt/utilicom/s_docs/2009reset_price_control_mech_draftdec_PWC_public_Submission.pdf

- *Does not consider future costs – Power and Water has an increasing expenditure pattern over the next regulatory period which will not be taken into account under the proposed method. The proposed method instead establishes a base year which is meant to, but does not, simulate all future years; or*

- *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; and*

- *Will result in Power and Water not being able to fund the operations and capital expenditure it has committed to in its 2008-09 SCI over the third regulatory control period, and which has been approved by the Shareholding Minister on the basis of objective need and capacity to deliver, determined with reference to estimates of economic growth and expected customer demand.*

All the same, a static "base year" approach to determine the Po factor based on 2008-09 costs has been adopted, which is a repeat of the 2004 Final Methodology. The Commission's basis for this is that the 2004 Final Methodology was free from material error and that a base year approach was superior to a forward looking approach.

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.

As a minimum, the Commission will have to be satisfied that its Determination for the third regulatory control period is consistent with its obligations under the Access Code, Rules requirements and may not be challenged on the basis of regulatory error.

6 2008-09 Operations and Maintenance Expenditure Forecast

6.1 Background

As required by the Final Decision Paper, Power and Water has provided its operating expenditure forecast to the Commission in the Commission's Po Adjustment Model. Its forecast for 2008-09 is $57.6 million.

Paragraph 2.24 of the Final Decision Paper requires that Power and Water's estimated operating expenditure must be calculated, determined or estimated consistent with, amongst other things, the requirements of clause 6.5.6(c) of the Rules.

This is explained further in paragraph 5.51 of the Final Decision Paper, which provides that Power and Water's:

> *……operating expenditure must reasonably reflect the operating expenditure criteria stated in clause 6.5.6(c) of the National Electricity Rules, namely:*
>
> - *the efficient costs of achieving the operating expenditure objectives (as stated in clause 6.5.6(a));*
> - *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.*

Paragraph 2.2 of the Final Decision Paper further states that:

> *….to the maximum extent possible under the NT Code, and consistent with this Final Decision, the Commission will follow the procedures set out in the National Electricity Rules for arriving at a Final Determination, in order to achieve consistency with procedural practice now evident elsewhere in Australia in the regulation of electricity distribution networks.*

As a result, Power and Water has also had regard for the operating expenditure factors set out in 6.5.6(e)(10) of the Rules, although this is not specifically required by the Commission in its Final Decision Paper.

This section sets out Power and Water's forecast 2008-09 operating expenditure and the components within it. 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. Power and Water addresses the requirements of the Rules in the following sections.

6.2 2008-09 Operations and Maintenance Expenditure

Power and Water's 2008-09 operating expenditure forecasts comprise 16 categories of operating expenditure:

- Personnel – Direct;
- Operational Recovery;
- Contract and Apprentice Labour;
- Repairs and Maintenance;
- Information Technology (IT) and Communications;
- Vehicle Costs;
- Travel Costs;
- Training Costs;

- Professional Fees;
- Insurance – Premium Payments;
- Materials;
- Stores Outsourcing;
- External Service Agreements;
- Property Charges; and
- Other Costs.

This section provides a detailed explanation of the nature and approach to forecasting each category of Power and Water's operating expenditure for 2008-09.

6.2.1 Personnel – Direct

Personnel – Direct expenditure relates to the salaries, leave allowances, leave loading and superannuation allowances for all Power Networks' staff, as well as payroll tax paid by Power and Water in relation to these staff. It does not include costs related to apprentices or contractor labour as these costs are dealt with separately under a separate item, "Contract and Apprentice Labour".

Importantly, indirect overheads are not included in the labour rate, consistent with the Australian International Financial Reporting Standards.

The 2008-09 forecast of Personnel - Direct expenditure was determined as follows:

- Expenditure was calculated based on the existing staff classification in 2007-08 using the award provisions contained in Power and Water's 2007-2010 UCA, adjusted for:
    - 9 new full time equivalent (FTE) positions at various levels identified (by independent consultants) as being required in 2008-09. Power Networks currently has 216 FTE staff, and this is expected to increase to 225 in 2008-09;
    - 3% salary and allowance adjustments, as required by clause 40.1 of the 2007-2010 UCA;
    - 5% salary and allowance increases for 60% of staff. This assumes that 60% of staff are likely to progress to the next level within their current classification band in 2008-09; and
    - 4.6% vacancy rates. This recognises that some positions will be vacant during the year as people leave Power Networks and that some positions, such as linesmen, are difficult to fill.

The increase in the required number of staff in Power Networks, combined with the increase in the award salaries and allowance provisions provided for in the 2007-10 UCA, has resulted in an increase in forecast Personnel - Direct expenditure for 2008-09 from 2007-08.

Power and Water's personnel model was audited by its internal auditor, EY Australia (EY), in March 2008 following the significant changes to the allowances provided for in Power and Water's 2007-2010 UCA. EY assessed the model to be robust and accurate.

Power and Water is subject to the provisions of the *Public Sector Employment and Management Act* (PSEMA) and as such its conditions of employment negotiations involve the Office of the Commissioner for Public Employment and unions representing Power and Water employees. While working within the PSEMA creates additional costs and complexity for Power and Water compared to other utilities, it provides formal assurance of efficient costs in the NT legislative framework.

6.2.2 Operational Recovery

Operational Recovery expenditure relates to direct labour costs that are recovered through repairs and maintenance expenditure and capital expenditure projects. Power and Water deducts its Operational Recovery expenditure from its Personnel Direct expenditure in order to ensure that there is no double counting of these costs in its overall operating expenditure forecasts.

6.2.3 Contract and Apprentice Labour

The Contract and Apprentice Labour expenditure forecast relates to costs associated with:

- Full time apprentices – In 2008-09 Power Networks has allowed for a total of 34 apprentices at different stages of their four year training program. This is an increase of nine apprentices from 2007-08. These new apprentices will commence their training program on 1 January 2009. This supports the requirement of clause 22.2 of the 2007-2010 UCA, which states that Power and Water (the consolidated business) shall continue to have a targeted intake of 12 apprentices each year; and

- Contract labour – This is short term vacancy and immediate need labour engaged by Power and Water which cannot otherwise be covered by existing FTE staff.

The expenditure forecast for apprentices and contract labour is derived as follows:

Apprentices

- The 2008-09 forecast apprentice salary and allowance expenditure is calculated based on salary and allowances for all apprentices, at their 2008-09 classification[10], being the higher of:

    - The award salary structure and allowances set out in the 2007-2010 UCA; and

[10] Expected movement of apprentices within their training qualification is taken into account.

- The award salary structure and allowances provided by the Communications, Electrical, Electronic, Energy, Information, Postal, Plumbing and Allied Services Union of Australia.

- This amount is then adjusted for costs associated with:

  - Nine new apprentices that will commence Power Networks' apprentice program. These apprentices will commence their employment on 1 January 2009;

  - 3% salary and allowance adjustments, effective from the first pay period commencing on or after 9 August 2008 as required by clause 40.1 of the 2007-2010 UCA;

  - The Industry Specific Skills Allowance (ISSA). All apprentices will receive a percentage of the ISSA, which was introduced to ensure that Power and Water has the ability to attract and retain employees with relevant industry specific skills. This gives effect to clause 50.2(c) of the 2007-2010 UCA;

  - The following cost allowances:

    - Tool Allowance - Metal Tradesman;

    - Tool Allowance - Other Tradesman;

    - Meal Allowance; and

    - Availability Allowance.

Contractor Labour

The 2008-09 forecast contract expenditure is calculated based on the 2007-08 budget of $15,000. No adjustment has been applied to this amount.

6.2.4 Repairs and Maintenance

Power and Water's Repairs and Maintenance expenditure falls into the following four categories:

- Cyclic Maintenance (Time Based Maintenance) – This comprises asset inspection and condition monitoring that is planned and scheduled on a cyclic basis (i.e. at regular time intervals) and consequently provides a basis for ongoing asset repair and maintenance;

- Corrective Maintenance – This comprises once-off planned asset inspections. These inspections are not scheduled on a cyclic basis but can be used to determine subsequent asset repair and maintenance activity;

- Specific Maintenance – This is once-off maintenance work that is undertaken during planned unit shutdowns; and

- Unforeseen Maintenance – This is undertaken to repair plant that has failed in service.

Each of these expenditure categories has been calculated for:

- Each geographic location being Darwin/Katherine, Alice Springs and Tennant Creek; and

- The following main assets/activities: Buildings and Grounds (particularly in relation to Zone Substations); Transmission and Distribution; and Zone Substations.

Importantly, for the purposes of its 2008-09 expenditure forecast, Power and Water has separately identified several items that had previously been included but not transparently shown in cyclic, corrective, specific and unforeseen maintenance, being:

- Cable testing and locations;

- Earth testing;

- Numbering of transmission assets; and

- Helicopter patrols.

The 2008-09 Repairs and Maintenance expenditure forecast has been derived as follows:

- *Buildings and Grounds* – This relates to expenditure on activities such as grounds maintenance, repairs of rusted power poles, vegetation maintenance and weed management. The 2008-09 expenditure forecast is based on existing contract costs or the expected costs of engaging a contractor to undertake the work;

- *Transmission and Distribution* – This includes cyclic, corrective and unforseen expenditure and the "other" identified activities – cable testing and locations, earth testing, numbering of transmission assets and helicopter patrols. The majority of this work is undertaken by Power Networks staff and the associated costs are based on required labour (based on the size of the crew and the expected number of days) and the cost of purchasing materials. All materials and equipment are purchased from MM Electrical at the catalogue price, and labour costs are in accordance with the 2007-2010 UCA. Activities which are undertaken by contractors are based on the costs of existing contracts (which have been tendered) or the expected cost of engaging a contractor to undertake the work under a competitive tender process; and

- *Zone Substations* – This mainly relates to corrective and unforseen maintenance and "other" identified activities, such as detailed inspections, continuous monitoring of internal switch gear and on-line power transformer oil maintenance. Staff provided by Power Networks are costed on the basis of required labour, based on the size of the crew and the expected number of days. The cost of purchasing materials and activities which are undertaken by

contractors are based on the costs of existing contracts (which have been tendered) or the expected cost of engaging a contractor to undertake the work under a competitive tender process.

6.2.5 IT and Communications

IT and Communications expenditure relates to computer and telecommunication expenses incurred by Power and Water. In particular, it relates to expenditure on:

- Computer stationery such as ink cartridges, toners and other stationery;
- Internet and Intranet services;
- Software requirements;
- IT licensing and software support;
- Telecommunications;
- Other communication equipment; and
- Land Access Information System (LAIS) charges.

The expenditure forecast for each of the above items has been derived in the following manner:

- Computer stationery and other communications – based on Power and Water's 2007-08 SCI budget adjusted for minor efficiency savings. No escalation has been applied;
- Computer software and internet/intranet expenditure – based on the 2007-08 SCI budget. No escalation has been applied on the basis that actual expenditure for 2007-08 was equal to budget. Power and Water is a member of the Northern Territory Government's Telstra service contract. This contract was tendered in October 2004 and allows Telstra to provide internet services, as well as fixed and mobile voice and data services. The tender process was managed by DCIS. This contract is of five years duration. It commenced in mid-2005 and is due to expire in mid-2010;
- IT licensing and software – The 2008-09 forecast expenditure also reflects the 2007-08 SCI budget and no adjustment factor has been applied. This category relates to specific ongoing licensing and support programs, including transformer rating and cable rating software;
- Telecommunications expenditure – This is calculated on the basis of the number of handsets, mobiles, satellite phones and telemetry and voice communications services provided by Telstra multiplied by the average call costs per month. Again, this reflects the 2007-08 budget. No escalation has been applied in determining the 2008-09 expenditure forecast on the basis that actual expenditure for 2007-08 was equal to budget, and no major new needs have been identified. As noted above, Telstra provides all of Power and Water's fixed and mobile voice and communication services, in accordance

with the whole of Northern Territory Government service contract. The prices charged by Telstra have been set by a competitive market process and are not negotiable within the contract period; and

- LAIS expenditure – This reflects the statutory charges associated with accessing land titles from the Government's LAIS. The 2008-09 expenditure forecast reflects the 2007-08 budget, with no adjustment or escalation, and reflects Power and Water accessing the service 1,000 times at a fixed cost of $10 for each access, as it did in 2007-08.

6.2.6 Vehicles

Vehicles expenditure relates to:

- Leasing, servicing and running the vehicle fleet used by Power Networks' staff. The fleet comprises both light and heavy vehicles such as cars (including small sedans, hatchbacks and wagons), four wheel drives / land cruisers and trucks that are used for operational purposes. Most vehicles need to be capable of travelling long distances on outback roads; and

- Hire charges, including costs associated with vehicle hire and taxi use by Power Networks. Vehicles such as mini buses are also hired for use by apprentices attending intra-territory training and interstate trade school.

The expenditure forecast for each of these items is detailed below.

Fleet Vehicle expenditure

- Fleet vehicles are leased from Northern Territory Fleet (NT Fleet) which is responsible for the management of fleet for all arms of the Northern Territory Government except police, fire and emergency services. The leasing rates, terms and conditions are determined by NT Fleet. For the purposes of deriving the 2008-09 budget, Power and Water used the actual 2007-08 lease rates adjusted for:

    - 10 additional vehicles to support the increase in Power Networks staff, comprising heavy and light vehicles. These were costed based on the 2007-08 actual costs for the same vehicle type;

    - A 5.6% increase in the average 2007-08 fuel expenditure. Fuel consumption volume is based on 2006-07 actual consumption. Power and Water considers that a 5.6% increase for fuel is extremely conservative in light of the increasing cost of fuel in the Australian market; and

    - A repairs and maintenance budget for all vehicle types based on average historical costs. This is important to keep all vehicles in safe running order and in a suitable condition to hand back to NT Fleet once they reach their 40,000 km limit, otherwise excess charges are incurred.

Hire charges

- Hire Charges – This expenditure forecast is based on the 2007-08 SCI budget and takes account of the expected travel needs of all Power Networks staff in 2008-09.

6.2.7 Travel

Travel expenditure relates to Power Networks' staff travel for operational purposes. Due to the dispersed nature of Power and Water's network, staff are frequently required to travel for operational purposes between major centres, including Darwin, Katherine, Alice Springs and Tennant Creek, as well as to smaller remote locations.

All of Power and Water's travel requirements are booked through Travel World, which was chosen as the preferred travel and accommodation provider in a tender undertaken in 2006. Travel World was awarded a three year contract which commenced in November 2006 and expires in November 2009.

Travel expenditure comprises:

- Intra-territory airfares for staff including technicians, engineers and regional managers. This relates to the need to attend:
    - Work – There is a need for staff to travel between locations to relieve staff shortages and vacancies as well as provide services not otherwise available in some locations. For instance, there are no engineers located in Alice Springs despite recruitment efforts. Engineers based in Darwin therefore need to travel to Alice Springs to undertake necessary work;
    - Meetings – These include occupational health and safety meetings, personnel meetings and planning workshops; and
    - On site visits and inspections – This includes asset inspections, inspections of power supplies to hospitals as well as for specific projects, particularly those that are in their infancy.

    This forecast expenditure is based on the latest available 2007-08 actual travel requirements adjusted for identified specific staff travel needs in 2008-09;

- Accommodation for intra-territory travel, which has been forecast based on the average historic cost per night of accommodation and the forecast travel requirements;

- The cost of representation on the interstate Energy Network Association Asset Management Committee meetings, which occur three times annually, and other delegated staff attending leadership programs. This forecast was calculated based on anticipated travel in 2008-09 and airfare costs;

- Reimbursements paid to staff for using their own vehicles for operational purposes, such as relief work in outback areas. This forecast was based on the latest available 2007-08 actual expenditure, and travel requirements, with no further adjustment applied; and

- Travel allowance and accommodation for interstate travel requirements – This is based on seven interstate trips being required for attendance at Energy Network Association Asset Management Committee meetings and leadership programs. The average required travel allowance for each trip has been determined in accordance with the requirements set out in the 2007-2010 UCA. Accommodation is booked through Travel World and the average historic costs have been used as the basis for the forecast, including normal travel booking fees.

6.2.8 Training

Training expenditure relates to network operations training and the associated travel and travel allowance costs. Staff are required to attend training for new/upgraded operations systems and software, induction and for mandatory occupational health and safety purposes. The 2008-09 expenditure forecast has been established by identifying the required training needs of network staff and the associated travel and travel allowance costs. Power and Water will undertake the following training courses in 2008-09:

- Simcal Course – Power and Water will upgrade its Siemens Networks Calculator Software which is becoming obsolete and no longer fully supported by the manufacturer. While there is no specific cost associated with upgrading the software, Power and Water will be required to hold training for staff on how to use the upgraded software. The software provider will conduct this training at an advised estimated cost of $20,000, being the cost of providing similar courses in the past. Hill Michael Associates, the Australian representatives for the Siemens' software program, will provide the training as they are the only training providers in Australia; and

- The Underground Cables and Distribution Reliability Course and Cable Termination and Joining Course. These courses are required to upgrade the skills of Network Engineers. Staff attend these courses as part of their required training. These costs have been estimated based on historic per person attendance costs.

The 2008-09 expenditure forecast for training is less than half of the 2007-08 SCI budget. In terms of the required travel fares and allowances, Power and Water has allowed for the following forecast expenditure:

- Travel expenses associated with Power Networks staff and apprentices attending training. This relates to travel between Darwin and Alice Springs for networks managers and coordinators conducting training including induction, first aid, OH&S as well as for staff attending this training. The average cost of airfares is based on actual historic costs;

- Travel allowance is payable to apprentices attending interstate training. An allowance is also payable to managers and coordinators conducting

intra-territory training and to staff attending the Cable Termination and Joining Courses, which will be held in Darwin. Travel allowance expenditure has been calculated in accordance with relevant provisions in the 2007-2010 UCA; and

- Other training expenses. This relates to accommodation and travel allowances for on-call and overtime requirements. This cost has been based on the 2007-08 SCI budget allowance and has been adjusted to reflect increased personnel numbers.

6.2.9 Professional Fees

Professional Fees expenditure relates to conveyancing and settlement fees, the purchase of land easements, network licence fees paid to the Commission, other legal fees relating to civil litigation against Power and Water and intra-territory consultants' fees.

The expenditure forecast for each of these services is detailed below:

- Conveyancing and Settlement Fees – This expenditure relates to fees for placing Overriding Statutory Charges (OSC) on properties which have unpaid capital contributions. Capital contributions relate to the costs of designing, constructing, installing and commissioning connection assets. All properties in an area to which the network is being extended must contribute to the cost of extending the distribution network through a capital contribution, regardless of whether they choose to take supply[11]. Placing an OSC in the land register over a property title allows Power and Water to take proceedings to recover any such amount if the owner does not pay the outstanding amount, in accordance with the agreed settlement on the land. The cost to Power and Water of registering an OSC in the Land Register, which is maintained by the Register General's Office, is $125 per application. Power and Water has based its 2008-09 forecast expenditure on the 2007-08 SCI budget. Actual expenditure for 2007-08 came in on budget;[12]

- Land Easements – This expenditure relates to the purchase of land easements. Power and Water has identified that it will need to purchase 12 land easements in 2008-09. The cost of these easements is based on the past actual cost of easements. Power and Water's 2008-09 expenditure forecast is the same as its 2007-08 budget;

- Other Legal Fees – This expenditure relates to:

    - The forecast allowance for average commercial legal fees, which include matters such as reviewing and drafting customer connection contracts; and

    - Several ongoing civil litigation cases against Power Networks.

[11] Refer section 86(1)-(9) of the *Electricity Reform Act 2000*.

[12] Also refer to Capital Contributions Policy section 7.11 and *Land Titles Act* section 88 found at: http://www.austlii.edu.au/au/legis/nt/consol_act/lta109.txt/cgi-bin/download.cgi/download/au/legis/nt/consol_act/lta109.rtf

- Regulatory Licence fees – This relates to expenditure for Power and Water's network licence, as required under section 14(3) of the *Electricity Reform Act 2000.* Licence fees are established by the Minister and comprise a fixed and variable component.[13] Power and Water has based its 2008-09 forecast expenditure on the actual licence fee for 2007-08, adjusted by an escalation factor of 2%; and

- Intra-Territory Consultant Fees – This relates to consulting fees for specific network related projects, for which the expertise is not available within Power and Water. Only a small budget has been allowed as consultancies are more likely to be business related. The budget was determined by assessing the likely needs of each of the network's line managers.

6.2.10 Insurance Premiums

Insurance Premiums expenditure relates to general insurance, motor vehicle insurance and public liability insurance premium payments.

All of Power and Water's insurance providers are sourced through an international insurance broker – Aon Australia. This enables Power and Water to satisfy itself that it has secured the best possible insurance coverage and rates. Aon Australia was selected as the preferred broker in a competitive tender, and operates under a five year contract that commenced in 2005-06 and is due to expire in 2009-10. The expenditure forecast for each item of insurance is detailed below:

- General Insurance Premium Payments – Power and Water is only able to source insurance coverage for its physical buildings/assets, such as transformers and substations. Power and Water's overhead poles and wires and its underground cables are not insured. General claims therefore relate to significant damage to Power and Water's physical buildings/assets, such as transformers and substation, caused by fire, cyclones or other events. The 2008-09 expenditure forecast is based on the 2007-08 budget;

- Motor Vehicle Insurance Premium Payments – This relates to insurance claims for accidents to NT Fleet vehicles used by Power Networks. Power and Water currently insures its NT Fleet vehicles through Zurich Insurance. This is for a 12 month period, after which time Power and Water's insurance broker will reassess the best insurance provider for Power and Water. The forecast allowance has been determined based on the 2007-08 SCI budget with a small efficiency saving included; and

- Public Liability Premium Payments – This is for general liability claims by the public for damage or loss as a result of interruptions to power supply or other personnel/property damage resulting from Power and Water's network. This expenditure forecast is based on the 2007-08 SCI budget. Power and Water notes that the actual 2007-08 expenditure is almost double the budgeted amount for that year.

Power and Water has not sought any self-insurance expenditure allowances for uninsurable events, or for poles and wires, in this Regulatory Proposal.

[13] http://www.nt.gov.au/ntt/utilicom/s_docs/elec_lic_fees_sched_jul%2001_010803.pdf

6.2.11 Materials

Materials expenditure relates to the purchase of chemicals for operational requirements, the purchase of stores and materials, and office stationery.

The expenditure forecast for each of these matters is detailed below:

- Chemicals for operational requirements – This is based on the 2007-08 SCI budget;

- Stores and Materials – This relates to a range of items including cables, wire, cable ties and bolts that are not attributable to any particular infrastructure project. Power and Water has based its 2008-09 forecast on its 2007-08 SCI budget plus a 9.5% increase. CPI was not an appropriate basis for determining the escalation because it does not reflect the change in the cost of delivering infrastructure projects. A 9.5% increase is extremely conservative in light of the current and anticipated 2008-09 prices of materials including copper, steel and aluminium; and

- Office Stationery – This includes computer paper, pens and other general stationery requirements. The expenditure for this item is based on several years of actual historic expenditure and the 2007-08 budget.

6.2.12 Stores Outsourcing

Stores Outsourcing expenditure relates to the payment of MM Electrical for the supply and management of stores and materials for Power Networks' needs. MM Electrical was appointed by competitive tender, with the contract to be re-tendered in 2008-09.

Freight charges to regional centres are paid at cost. MM Electrical has depots in Darwin and Alice Springs. It transports materials from these depots to Katherine, Tennant Creek, and all other areas, as required.

Rising fuel prices and the increased demand for goods have driven an increase in expenditure on freight charges over the last few years. Power and Water has based its 2008-09 expenditure forecast on 2007-08 actual expenditure. No escalation has been applied.

6.2.13 External Service Agreements

External Service Agreements expenditure relates to agents' fees, procurement and other service arrangements. The expenditure forecast for each of these matters is detailed below:

- Agents' fees – This relates to contractual fees to providers of operational services.

  The 2008-09 budget is much smaller than the 2007-08 SCI budget as Power and Water has reviewed all existing contracts and is only continuing with those that remain relevant;

- Procurement – This relates to the costs incurred by Power and Water in complying with the Northern Territory Government's procurement framework. This framework is administered by DCIS and comprises the *Procurement Act 1995*, Procurement Regulations and Amendments (March 2006) and Procurement Directions and Northern Territory Procurement Code. It ensures that Power and Water's procurement of works, services and goods are undertaken pursuant to given principles. The 2008-09 forecast has been increased from the 2007-08 SCI budget as Power and Water expects to have a greater number of contracts, which will need to go through the procurement process. Cost forecasts have been determined based on 2006-07 and 2007-08 average costs of complying with the procurement process; and

- Other Service Arrangements – This relates to service agreements for other office equipment, including photocopiers. The 2008-09 forecast is much lower than the 2007-08 budget due to the expiration of many of the service agreements.

6.2.14 Property Charges

Property Charges expenditure relates to the expenses incurred by Power and Water for property management, property maintenance and property leasing/rental payments. The expenditure forecast for each of these matters is as follows:

- Property Management – This expenditure relates to the Local Government rates payable by Power and Water, such as for its land/properties including substation and zone substations. The forecast 2008-09 expenditure is based on actual rates payable for all Power and Water's properties escalated by CPI;

- Property Maintenance – This expenditure relates to contracts for cleaning services, industrial waste removal, ground maintenance for substations, rubbish collection at Power Networks' depots and the provision of property security services. The forecast 2008-09 expenditure for these services is based on the actual 2007-08 contract costs for these services with no further adjustment; and

- Property Lease / Rental Payments – This expenditure relates to rental and lease expenditure for properties used by Power Networks staff for work purposes and depot rental payments. Power and Water takes out long term lease agreements for property to accommodate staff, particularly in areas where it is difficult to secure short term accommodation. The forecast 2008-09 expenditure for these services is based on actual 2007-08 residential property rental contract agreements escalated by CPI, actual depot rent and rent paid to Darwin City Council.

6.2.15 Other Costs

Other Costs expenditure relates to expenditure on a range of items including furniture and fittings, recruitment (which relates to advertising, relocation expenditure, such as removal costs, travel allowance, storage and airfares), uniforms and protective clothing, safety expenses, conference fees, membership subscriptions and other general expenses.

The forecast of this expenditure has been derived as follows:

- Furniture and fittings – This expenditure relates to plant and equipment less than $2,000, capital items less than $2,000, minor asset repairs and maintenance, and other items less than $2,000. The forecast 2008-09 expenditure for these items is based on an allowance of $1,337 per staff member, based on the 2007-08 actual expenditure per staff member and then escalated by a 3.4% growth factor. This expenditure category ensures that Power Networks' workforce has the appropriate tools and other equipment to effectively carry out required work programs;

- Recruitment advertising – Power and Water has committed to continuing its advertising campaign within Australia and off shore to try to attract and retain skilled workers, particularly linesmen and electricians that are needed to carry out its capital and repairs and maintenance programs. This campaign began in 2007-08 when Power and Water acknowledged that attracting and retaining skilled workers is a critical issue, in light of the need to compete for skilled labour given the current infrastructure and resources boom in the Northern Territory. Power Networks' 2008-09 forecast expenditure of $193,000 is based on actual unadjusted 2007-08 expenditure;

- Recruitment airfares, removal and storage, travel allowance, relocation fares and relocation travel allowance – The rates for all of these expenditure items, except airfares which are booked through Travel World, are set out in the 2007-2010 UCA. The budget for these items is higher than in previous years in light of the need to recruit more skilled labour and recognising that new labour is likely to be sourced from outside the Northern Territory;

- Conference fees, airfares, travel allowance – The 2008-09 expenditure allowance for these items is based on Managers and staff attending a total of five (identified) interstate conferences (Melbourne and Sydney). Associated airfares expenses have been allowed at average historic costs and are booked through Travel World. Travel allowance has been calculated as per the requirements in the 2007-2010 UCA. The 2008-09 expenditure forecast is a conservative allowance and is significantly lower than the actual expenditure in 2007-08. This travel expenditure is separate and additional to that set out in section 6.2.8;

- Membership and Subscriptions – The 2008-09 expenditure forecast is based on the actual 2007-08 membership fees, including:

    - Energy Supply Association of Australia;

    - Energy Network Association;

    - Electric and Magnetic Fields Program; and

    - CIGRE (International Council on Large Electric Systems) which is a worldwide Organization on Electric Power Systems, covering their technical, economic, environmental, organisational and regulatory issues.

- Freight – This expenditure relates to freight costs that cannot be allocated to specific projects. These forecasts are based on prior year actual expenditure and the 2007-08 SCI Budget, with no allowance for any escalation factor;

- Uniforms and Protective Clothing – This expenditure relates to protective clothing, as required by Safety Standards, and uniforms for all staff. The 2008-09 expenditure allowance is based on 2007-08 average expenditure per employee, escalated by CPI;

- Document Production – This expenditure relates to producing and publishing documents for Power Networks. The 2008-09 expenditure allowance is based on 2007-08 actual expenditure;

- Safety and Health – This expenditure relates to equipment for operational staff, including safety jackets, helmets, boots and other items. The 2008-09 expenditure allowance is based on the average cost per staff member for 2007-08; and

- Operational General – This expenditure relates to general expenses including water coolers, gas bottles and other miscellaneous expenditure items. The 2008-09 expenditure allowance is based on the average cost per staff member for 2007-08.

6.3 Operating Expenditure Objectives

Power and Water's operating expenditure forecast for 2008-09 achieves the operating expenditure objectives in clause 6.5.6(a) of the Rules for the reasons outlined below.

6.3.1 Meet or manage the expected demand for standard control services in 2008-09

Power and Water has forecast its energy consumption to increase by around 1.5% in 2008-09 and has forecast its peak demand to increase by 2.5% in 2008-09.

Power and Water has taken account of the expected demand growth in its operating expenditure allowance, particularly through higher labour and material volumes. This is because an increase in demand leads to growth in the asset base and therefore a greater number of assets for Power and Water to operate and maintain. This therefore requires an increase in available:

- Personnel numbers to carry out the increased operating and maintenance program, in turn increasing expenditure on direct personnel, contractors and apprentices. An increase in available labour in turn drives an associated increase in personnel costs including:

    - Training expenditure – A greater number of staff are required to attend relevant training, including compliance (e.g. first aid, occupational health and safety) and operational training (e.g. Simcal training, underground cables and distribution reliability training and the cable termination and joining course);

- Travel expenditure – More operational personnel will impact on travel reimbursement expenditure for staff using their own vehicles to undertake work, particularly in remote areas. More operational personnel undertaking training also directly increases the associated travel costs;

- Vehicle expenditure – More personnel directly results in an increased number of vehicles to enable them to undertake their work; and

- Other expenditure – Other additional cost items resulting from more personnel and a higher work load include an increase in the tools allowances, fixtures and fittings, other attractive items, uniforms and protective clothing.

- Materials to maintain and repair assets. This refers to the physical materials required to undertake repairs and maintenance activities. In addition, there is an associated increase in Stores Outsourcing forecast costs, which relates to the storage and management of required materials.

6.3.2 Comply with all applicable regulatory obligations or requirements associated with the provision of standard control services

Power and Water has a number of regulatory obligations that impact on its operating expenditure forecast. These include technical and safety requirements and standards contained in Regulations made under the *Electricity Reform Act 2000*, *Occupational Health and Safety Act 1991* (Cth) responsibilities and Workcover obligations.

These costs are reflected into:

- Training expenditure including occupational health and safety and first aid training that is required for regulatory compliance purposes;

- Travel expenditure to attend compliance related courses and training; and

- Other expenditure – This include uniforms and protective clothing that are required for regulatory compliance purposes.

The 2008-09 operating expenditure forecast in relation to these matters is based on its 2007-08 levels, adjusted for an increase in the labour force.

6.3.3 Maintain the quality, reliability and security of supply of standard control services; and Maintain reliability, safety and security of the distribution system through the supply of standard control services

Power and Water's quality, reliability, safety and security of supply obligations are set out in various planning documents including the Network Technical Code, the Network Planning Criteria and the Standards of Service Code.

The costs incurred by Power and Water in complying with these obligations have been reflected into the following key items of its 2008-09 operating expenditure forecast:

- Labour related expenditure - This relates to personnel that maintain Power and Water's network to ensure reliability and security of supply requirements are met. These costs are reflected into personnel, contractor and apprentices' expenditure. An increase in available labour in turn drives an increase in associated personnel costs, including:
    - Training expenditure;
    - Travel expenditure;
    - Vehicle expenditure; and
    - Other expenditure – Including tools allowances; fixtures and fittings, other attractive items, uniforms and protective clothing.
- Materials that are required to operate and maintain assets as well as associated Stores Outsourcing which relates to the storage and management of required materials.

6.4 Operating Expenditure Criteria

Power and Water's operating expenditure forecast for 2008-09 satisfies the operating expenditure criteria in clause 6.5.6(c) of the Rules. Clause 6.5.6(c) provides that the Commission must accept Power and Water's forecast operating expenditure for 2008-09 if it is satisfied that the total of the forecast reasonably reflects the operating expenditure criteria.

6.4.1 Defining Prudency and Efficiency

Power and Water has drawn its understanding and interpretation of prudency and efficiency from many sources.

Prudency and efficiency have been considered at length by Regulators since the publication of the 1993 National Competition Policy Review (widely called the Hilmer Report).[14] The AER, in particular, has considered at length the meaning and interpretation of prudency and efficiency and has set out an approach in its Statement of Regulatory Principles for the Regulation of Transmission Revenues (SRP)[15] in relation to how it should be applied. The AER's *Draft Decision SP AusNet Transmission Determination 2008-09 to 2013-14,* on 31 August 2007[16], used this approach and stated that:

> *….according to the following three step process which is based on a systematic chronological examination of decisions made in selecting and delivering investment. The purpose of the examination is to establish whether*

[14] Report by the Independent Committee of Inquiry, National Competition Policy, August 1993.

[15] http://www.aer.gov.au/content/index.phtml/itemId/660012

[16] http://www.aer.gov.au/content/item.phtml?itemId=714698&nodeId=cf54d675cb859054d44a54db5fd05550&fn=Draft%20Decision%20-%20SP%20AusNet%20transmission%20determination%202008%20-%202014%20(31%20August%202007).pdf

the TNSP made decisions at each stage consistent with good industry practice. The approach is as follows:

- *First, assess whether there is a justifiable need for the investment. This stage examines whether the TNSP correctly assessed the need for investment against its statutory and regulatory obligations. The assessment focuses on the need for investment, without specifically focussing on what the correct investment to meet that need should be. An affirmation of the need for an investment does not imply acceptance of the specific project that was developed;*

- *Second, assuming the need for an investment is recognised, assess whether the TNSP proposed the most efficient investment to meet that need. The content of the assessment is whether the TNSP objectively and competently analysed the investment to a standard that is consistent with good industry practice; and*

- *Third, assess whether the project that was analysed to be the most efficient was indeed developed, and if not, whether the difference reflects decisions that are consistent with good industry practice. The analysis in this third step examines in detail the factors that caused changes in the project design and/or delivery and assesses how the TNSP responded to those factors in comparison to what could be expected of a prudent operator.*

In its *Draft Decision SP AusNet Transmission Determination 2008-09 to 2013-14* the AER further elaborated on these principles, stating that prudent costs are those that a *"prudent operator in similar circumstances (would incur), and without the benefit of hindsight"*[17].

In its 2005-2010 South Australian Price Determination, the Essential Services Commission of South Australia (ESCOSA) stated that:

> *"There are a number of factors that must be considered in making a capital expenditure benchmark determination in the context of the South Australian environment. Consideration must be given to growth in forecast peak electricity demand, the service obligations placed on ETSA Utilities (including standards for reliability of supply) and the condition of assets."* [18]

ESCOSA further stated that in making its expenditure determination for the 2005-10 regulatory period, it was concerned with understanding the expenditure which "an efficient electricity distributor in ETSA Utilities' circumstances might require"[19].

ESCOSA went on to state that:

> *In the case of operating expenditure, differences in regulatory requirements (eg FRC obligations) could contribute greatly towards differences between*

[17] http://www.aer.gov.au/content/item.phtml?itemId=714698&nodeId=cf54d675cb859054d44a54db5fd05550&fn=Draft%20Decision%20-%20SP%20AusNet%20transmission%20determination%202008%20-%202014%20(31%20August%202007).pdf,, page xiii.

[18] http://www.escosa.sa.gov.au/webdata/resources/files/050405-EDPD_Part_A_StatementofReasons_Final.pdf p.76

[19] http://www.escosa.sa.gov.au/webdata/resources/files/050405-EDPD_Part_A_StatementofReasons_Final.pdf p.76

> *expenditure levels incurred by different distributors. The existence of such differences can make it difficult to draw valid comparisons between businesses*[20]*.*

ESCOSA's view appears consistent with the AER's views to the extent that ESCOSA considers that in determining whether costs are or are not efficient, specific regard must be given to the unique circumstances in which a utility operates.

The PricewaterhouseCoopers Report for TransGrid further notes that in interpreting and applying efficiency, it is necessary to look beyond process and to outcomes.

The Report noted that "*…the emphasis in the definition (of efficiency) is on outcomes rather than process:*

- *If a TNSP developed an investment using processes that were in accordance with good industry practice, the outcome would be, by definition, efficient investment; however*
- *If a TNSP did not follow good industry practice (indeed, in the absurd case, however imprudent the TNSP was), it is still necessary to assess the extent to which the amount invested exceeded the efficient amount (if at all).*

This is an important distinction – even if … TransGrid had inadequate processes, it would still be necessary to consider whether or not, in the event, the amount invested exceeded the amount that would have been invested by a prudent operator." [21]

The themes emerging from the above are that:

- There is no one definition of prudent and efficient used by Regulators – rather prudency and efficiency has been an evolving concept over time;
- The AER and other Regulators tend to adopt an approach that prudent and efficient costs are those that a *"prudent operator in similar circumstances (would incur), and without the benefit of hindsight".* It is therefore critical to understand the particular circumstances of a DNSP, and to rely less on theoretical outcomes when determining prudency and efficiency; and
- Efficiency is measured in terms of outcomes, not process. This means that the projects and dollars that Power and Water has invested in are what is important for the Commission to assess, not necessarily how these have been derived.

The new Rules also provide Power and Water with guidance, clearly noting that the prudent service provider is "in the circumstances of the DNSP". In section 6.5.6(c) of the Rules, the Commission must accept the forecast of required operating expenditure included in a revenue proposal, if it is satisfied that the total of the forecast operating expenditure for the regulatory control period reasonably reflects "*the costs that a prudent operator in the circumstances of the relevant Distribution Network Service Provider would require to achieve the operating expenditure objectives".*

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[20] http://www.escosa.sa.gov.au/webdata/resources/files/050405-EDPD_Part_A_StatementofReasons_Final.pdf p.90

[21] See http://www.accc.gov.au/content/item.phtml?itemId=471851&nodeId=58d7c97fcc17c74e57061278054417e9&fn=PWC%20MetroGrid%20Review%20Context.pdf, page 11

Power and Water has therefore focussed on ensuring that its justification of prudency and efficiency in this Regulatory Proposal assists the Commission in understanding its circumstances, which have given rise to the need for expenditure. It has also sought to explain how it has derived its costs, given its circumstances, in order to demonstrate efficiency.

6.4.2 The efficient costs of achieving the operating expenditure objectives

Each of the items comprising its 2008-09 operating expenditure forecast must be efficient. As noted above, efficiency relates to the manner in which an activity is undertaken, once it is established that it is necessary to undertake the activity. In particular, efficiency concerns whether an activity could have been undertaken at a lower cost whilst delivering the required output.

Power and Water considers that each of the items that make up its 2008-09 operating expenditure forecast are cost efficient and could not have been undertaken at a materially lower cost whilst delivering the required output.

Personnel – Direct

Power and Water's 2008-09 Personnel – Direct expenditure forecast is based on the salary and allowance provisions set out in the 2007-2010 UCA. This is efficient because salary and allowances established in the 2007-2010 UCA are binding. The personnel funding model has also been audited for compliance with the provisions set out in the 2007-2010 UCA by EY.

Contract and Apprentice Labour

Power and Water considers that its forecast 2008-09 expenditure for Contract and Apprentice Labour is efficient for the following reasons:

- In relation to apprentice labour – Salary and allowances established in the 2007-2010 UCA and the Communications, Electrical, Electronic, Energy, Information, Postal Plumbing and Allied Services Union Agreement are binding. Power and Water must therefore base its expenditure forecast on the relevant provisions of these agreements; and

- In relation to contract labour – Power and Water considers that its 2007-08 budget expenditure provides an appropriate threshold for its contract labour costs.

Repairs and Maintenance

The 2008-09 Repairs and Maintenance budget is based on asset related cyclical inspection programs, budgeted defect rates and staff budget programs determined by Power and Water Network management. All personnel rates are as per the personnel budget and EBA arrangements, and frequency inspection programs and defect rates are as required for specific assets and in line with industry norms.

IT and Communications

Power and Water's forecast 2008-09 expenditure for IT and Communications is efficient because:

- The Telstra contract for internet, fixed and mobile services was market tested and the costs are the outcome of a competitive process;
- Government charges are not negotiable and cannot be sourced more efficiently; and
- Contractual agreements in relation to IT licenses and support were market tested and are therefore also efficient.

Vehicle

The forecast 2008-09 expenditure for Vehicles is efficient because:

- Power and Water obtains these services from NT Fleet and cannot source them from another provider. This means that these costs are as low as they could be for any other network provider in "Power and Water's circumstances";
- A 5.6% increase in the fuel cost allowance is extremely conservative in light of current fuel prices; and
- Power and Water's 2007-08 budget and 2007-08 actual expenditure for hire charges and vehicle repairs and maintenance respectively are considered to be the minimum costs associated with these services.

Travel

The 2008-09 Travel expenditure forecast is efficient because all travel (flights and accommodation) is booked through a contract with Travel World which was established by competitive tender.

Training

Power and Water's 2008-09 Training expenditure forecast is efficient because:

- Only one service provider, Hill Michael Associates, is able to provide the Simcal course as it is the Australian representative for the Siemens software. Power and Water has established competitive arrangements with this company which it believes are as low as could be achieved;
- Costs for other identified training courses, such as the Underground Cables and Distribution Reliability Courses, are competitively offered by market providers, and are the outcome of competitive tender processes. The costs for these have been forecast based on the historic cost of running these courses, which are frequently attended by staff as part of ongoing training requirements;

- Travel is arranged by Travel World; and

- Travel allowance payments are calculated in accordance with Power and Water's 2007-2010 UCA.

Professional Fees

Power and Water's 2008-09 Professional Fees expenditure forecast is efficient because:

- Government charges are not negotiable and are therefore, by definition, as low as can be possibly achieved by Power and Water as a purchaser of these services;

- Land easement negotiations are undertaken by Power and Water on a "needs basis" as far ahead as possible, and are purchased at market rates. This is the same as for all electricity distributors;

- Power and Water's 2007-08 budget adjusted by CPI is a reasonable basis to estimate Power and Water's 2008-09 licence fees.

Power and Water's 2008-09 expenditure is around 54% less that its 2007-08 budget as a result of accommodating for scope changes and efficiency savings.

Insurance Premiums

Power and Water's 2008-09 Insurance Premiums expenditure forecast is efficient because its insurance coverage for motor vehicles, public liability and general items has been sourced through insurance broker Aon Australia. The forecast expenditure reflects its reasonable expectations of actual costs, based on premium payments to the current insurance providers.

Materials

Power and Water's 2008-09 Materials expenditure forecast, which is 8.1% higher than the previous year's budget, is efficient because it is based on 2007-08 actual expenditure, and has only been adjusted by around 10% for materials expenditure to reflect the increasing cost of purchasing materials including copper, steel, and aluminium. This is extremely conservative in light of the soaring prices of copper, steel, and aluminium.

Stores Outsourcing

Power and Water's 2008-09 Stores Outsourcing expenditure forecast is efficient because it is calculated based on the provisions in MM Electrical's current contract. MM Electrical was selected as Power and Water's preferred supplier and manager of stores and materials in a competitive tender process in July 2001.

External Service Agreements

Power and Water's 2008-09 External Service Agreement expenditure forecast is efficient because:

- The forecast for agents' fees and other service arrangements is the minimum expenditure required to satisfy its contractual agreements. In developing its expenditure forecast, Power and Water reviewed and assessed the continued need for all of its existing contracts and is only continuing with those that it has assessed as still being relevant and required. This has led to the termination of several contracts that were in place in 2007-08 and the exclusion of their associated costs from the 2008-09 expenditure forecast; and

- Power and Water has identified that in 2008-09 it will be required to administer 15 contracts in accordance with its procurement process. The average cost, per contract, of complying with its procurement process is derived based on several years of actual costs.

Power and Water's 2008-09 expenditure forecast is around 51% lower than its 2007-08 budget, as a result of identified scope change savings.

Property Charges

Power and Water's 2008-09 Property Charges expenditure forecast is efficient because:

- Government rates are not negotiable and therefore cannot be reduced by Power and Water or any other network company in its circumstances;

- Property maintenance contracts were competitively tendered. Further, Power and Water has assessed the continued need for all of its existing contracts and is only continuing with those that it has assessed as still being relevant and required in 2008-09; and

- Rental contracts are market derived and therefore efficient. Further, Power and Water has reviewed its property lease/rental contracts and is only continuing with those that it has assessed as still being relevant and required in 2008-09.

6.4.3 The costs that a prudent operator in the circumstances of the relevant Distribution Network Service Provider would require to achieve the operating expenditure objectives

The operating expenditure forecast must be for activities/items that Power and Water is required to undertake in that year and therefore could not have been deferred, avoided or substituted for other activities and are for the minimum quantity/amount/levels of these activities/items.

Power and Water considers that each of the expenditure items/activities comprising its 2008-09 operating expenditure forecast are prudent because they could not have been deferred, avoided or substituted for other activities:

- Labour related expenditure is for the minimum required labour force to undertake its repairs and maintenance program in 2008-09. It relates to:

    - Personnel direct expenditure – Power and Water has only allowed for an increase of 9 staff despite the significant increase in its works program in

2008-09. This is the minimum FTE staff increase required to undertake the required works; and

- Contract and apprentices expenditure – Power and Water has only allowed for an increase of 8 apprentices in 2008-09. This gives effect to clause 22.2 of the 2007-2010 UCA, which states that Power and Water (the consolidated business) shall continue to have a targeted intake of 12 apprentices each year. This is the minimum apprentice intake in light of the future year's works program and the current skills shortage.

- Personnel associated costs – An increase in personnel in-turn drives greater expenditure on the following personnel associated costs. In some cases Power and Water has been able to control any increase over the 2007-08 expenditure levels through efficiency savings and scope changes:
  - Training expenditure for staff to attend compliance and other specific operational training. This has been based on identified individual staff training needs and is the minimum required expenditure;
  - Travel expenditure for staff to undertake work in different locations. This has been based on identified individual staff travel needs and is the minimum required expenditure;
  - Vehicle expenditure required for staff to travel for operational purposes. Power and Water has only budgeted for an additional 10 vehicles to support the increase in Power Networks' staff in 2008-09, comprising heavy and light vehicles;
  - IT and communications required for staff to effectively undertake operational work. Power and Water has not increased the level of its IT and communications requirements and therefore there is no material change in its expenditure in 2008-09 compared to 2007-08; and
  - Other expenditure – Including tools allowances, fixtures and fittings, other attractive items, uniforms and protective clothing. Power and Water has calculated its requirements in accordance with the provisions under the 2007-2010 UCA (tools allowance, personnel relocation and storage provisions, personnel removal provisions, and protective clothing) and has based its requirements for other such expenditure on the average of several years of past actual expenditure.

- Repairs and Maintenance – The repairs and maintenance related expenditure is the minimum required to undertake its maintenance program in 2008-09 and relates to:
  - Materials expenditure which relates to materials attributable to a specific project. Power and Water has not increased the quantity of materials required although has allowed for an increase in expenditure in light of the increasing cost of purchasing materials including copper, steel, and aluminium; and
  - Stores outsourcing expenditure which relates to the storage and management of required materials.

6.4.4 A realistic expectation of the demand forecast and cost inputs required to achieve the operating expenditure objectives

Power and Water's forecast has been developed having regard for growth in both forecast energy consumption and peak demand. Power and Water has forecast energy consumption in 2008-09 to increase by around 1.5% and has forecast peak demand to increase by 2.5%.

Power and Water has internally developed its baseline (medium growth rate scenario) energy consumption forecast having regard for, amongst other things:

- 2006-07 energy consumption (kWhs); and
- Growth in customer numbers, having regard for projected population growth.

Power and Water's peak demand forecast of 2.5% was independently undertaken by Power and Water Generation and has been relied upon by Power Networks.

Baseline electricity consumption and peak demand growth forecasts are consistent with the Utilities Commission's forecast in its 2007 Annual Power System Review, set out in the table below.

Table 3: Electricity Consumption and Peak Demand Growth Rates, 2007-08 to 2010-11

Region	Assumption
Darwin – Katherine	3% baseline plus major projects (equiv. to 3.9% pa compound growth rate)
Alice Springs	2.0%
Tenant Creek	1.0%

To ensure that its network is capable of meeting its reliability, security of supply and safety requirements given the forecast growth in demand, Power and Water has taken the growth forecast into account in developing its 2008-09 operating expenditure forecast.

7 2008-09 Capital Expenditure Forecast

7.1 Background

Power and Water has embarked on a Corporation-wide capital program improvement plan. The plan involves the formulation of a governance framework as well as a project management framework. Key outputs include approval, reporting and escalation protocols, refined business case templates, risk management and change management protocols, project management policies and procedures, resource and training plans and a post-implementation review template.

During 2007-08, Power and Water completed a review of its capital investment processes, conducted with the assistance of EY. Many of the recommendations from this review have been implemented for 2008-09 and include clearer roles and processes in the planning and implementation of the capital investment program, and further improvement in the rigour of project approvals and monitoring. This builds on advances made during 2007-08 with the commencement of a new Board sub-committee to oversight the planning, approval and implementation of the program. An independent report concluded that its processes are consistent with average or above average peers.

Power and Water has provided its 2008-09 capital expenditure forecast to the Commission in the Commission's Po Adjustment Model and also in Appendix A of this Regulatory Proposal. The 2008-09 forecast capital expenditure cost is $56.6 million.

Power and Water's capital expenditure has increased rapidly since 2005-06:

- In 2005-06, capital expenditure was $22.4 million;
- In 2006-07 capital expenditure was $28.4 million;
- In 2007-08 capital expenditure was $44.9 million; and
- In 2008-09 capital expenditure is expected to be $56.6 million.

Power and Water determines its expenditure requirements having regard for:

- An "objective need" to undertake investment – Power and Water assesses its ability to meet its current regulatory and legislative obligations and requirements, such as standard of service requirements and supply reliability targets, and seeks expenditure in order to meet these. This supports prudent and efficient investment in line with good industry practice;
- The "capacity to deliver" its capital works program – Power and Water considers its resource ability/capacity to undertake each individual capital project within the context of the resource requirements and constraints of the total works program (i.e. the total capital works program), and seeks to include only those projects that it can deliver;

- Forecast load growth and high levels of network utilisation – Power and Water has forecast its overall energy consumption in 2008-09 to increase by around 1.5% and has forecast peak demand to increase by 2.5%. Power and Water has also identified higher than average load growth in some areas including:

    - Darwin's Central Business District (CBD) – The demand for electricity in Darwin's CBD has grown significantly since 2006-07 due to projects such as the Waterfront Development;

    - The Palmerston area – The load growth at Palmerston has grown significantly over the last decade (at a rate of around 6.05% per annum) due to the development of the Robertson Barracks, the expansion of the Palmerston shopping centre, numerous new developments in the Palmerston CBD and extensive residential developments; and

    - The East Arm Peninsula - The load growth at the East Arm Peninsula has grown significantly over the last regulatory control period due to the development of the Trade Development Zone (TDZ), the Business Park, the Hudson Creek industrial subdivision, East Arm Port, major customers such as Northern Cement, and facilities associated with the rail link to Adelaide.

    The load growth in these areas has further required increases in capital expenditure over 2008-09 in order to continue to provide a reliable, secure and safe electricity supply. In particular it has led to an increase in investment in Zone Substations which convert high voltage power to lower voltage electricity for transportation by distribution lines to homes and businesses. Prior to building the Frances Bay indoor zone substation, which commenced in 2003-04 (and which is due to be commissioned in 2008-09), it had not built a zone substation since 1987-88. Power and Water has identified required investment in five zone substations in its 2008-09 capital works program;

- More prescriptive network planning standards – Power and Water's 2008-09 capital investment program reflects the phased adoption of N-1 deterministic standards across its network. This more prescriptive standard will form the basis of the revised Network Planning Criteria. The current Network Planning Criteria allows considerable discretion resulting in N-1 capability in some parts of the network but lower levels elsewhere.

    In the Northern Territory Government's 10 year Infrastructure Strategy Draft Report (July 2008), the consulting team, comprising economists ACIL Tasman and engineers Evans and Peck, ranked Power and Water Corporation in the highest rating category (category one) for Northern Territory Agencies in terms of the evolving robustness and overall maturity of its long-term forward planning for infrastructure that addresses the strategic priorities of the Northern Territory Government. That Report defined "Category one" as "Internal processes, systems and procedures are broadly consistent with average or above average interstate peers in relation to infrastructure planning activities";

- Ageing infrastructure – Much of Power and Water's network is now well over 30 years old, as it was rebuilt following Cyclone Tracy in 1974/1975, and is

operated in both harsh tropical and arid environments. Power and Water is therefore required to invest to replace assets:

  - Which no longer operate efficiently and which may present reliability and security of supply, occupational health, and safety risks;
  - For which it has become increasingly harder to source spare parts; and
  - For which the associated maintenance and repairs costs outweigh the benefits and therefore it is more efficient to replace the existing asset;

- Real wages growth for both Power Networks staff and contract labour – This is a result of:
  - Changes in Power and Water's 2007-2010 UCA; and
  - The tight labour market for skilled contract labour and consequent price rises for this labour; and

- Rising material and equipment costs – Strong global demand has seen copper, aluminium and steel prices, and equipment costs rise well above CPI, and annual price increases of certain equipment/materials have been as much as 80.5% per annum since 2002[22]. Recent regulatory submissions by the NSW Electricity Distribution Businesses (see Attachment 5.15 of EnergyAustralia's Regulatory Proposal) note the very high increases in base metal and component prices both historically and over coming years. Power and Water has the same issues with its purchasing.

This highlights that the increased capital expenditure requirements since 2005-06, but in particular between 2006-07 and 2007-08, reflect the combined effect of the increased required volume of work and higher prices as outlined above.

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.

This review has been undertaken in three parts:

[22] Power Networks

- This chapter reviews the 2008-09 capital expenditure forecast against the capital expenditure objectives, factors and criteria in section 6.5.7 of the Rules;
- Appendix A to this Regulatory Proposal provides a detailed project by project assessment of the 2008-09 capital expenditure forecast. This provides the Commission with all of the projects that contribute to the 2008-09 capital expenditure forecast and in particular highlights what each relates to, why it is necessary, what alternatives were considered and how the costs were forecast; and
- Appendix B to this Regulatory Proposal provides a detailed project by project assessment of 2007-08 capital expenditure. While not requested by the Commission, it provides further credibility and support for Power and Water's 2008-09 capital expenditure forecast and evidences the fact that Power and Water is resourced to manage and provide capital expenditure at the forecast 2008-09 scale.

7.2 Capital Expenditure Objectives

Power and Water's capital expenditure forecast for 2008-09 meets the following capital expenditure objectives in clause 6.5.7(a) of the Rules.

7.2.1 Meet or manage the expected demand for standard control services in 2008-09

The generally accepted interpretation is that Power and Water's 2008-09 capital expenditure forecast, by project, must be sufficient (and no more) to meet or manage the expected demand for standard control services in 2008-09.

Power and Water has forecast its overall energy consumption to increase by around 1.5% in 2008-09 and has forecast its peak demand to increase by 2.5% in 2008-09. It has taken account of the expected demand growth in its capital expenditure program by identifying specific projects relating to standard control services that will ensure that Power and Water is able to continue to supply a safe, reliable and efficient power supply. Examples of these projects include:

- The construction of Zone Substations including the construction of the Archer Zone Substation, Marrakai Zone Substation, Frances Bay Zone Substation, East Arm Zone Substation and the CBD Zone Substation, which are designed to meet and manage the growing demand in surrounding areas mainly due to population growth; and
- The construction of the Weddell to Palmerston 66 kV Line. This project is designed to address the load growth in the Palmerston area and support the construction of Weddell Power Station.

7.2.2 Comply with all applicable regulatory obligations or requirements associated with the provision of standard control services

Power and Water interprets this to include any anticipated changes to these obligations.

The costs incurred by Power and Water in complying with its key regulatory obligations are reflected into its capital works program. In particular, the need to undertake certain projects directly relates to meeting its key regulatory obligations. For example:

- Voltage control requirements – These requirements are set out in Power and Water's Network Connection Technical Code (section 2.3) and require that Power and Water maintain voltage such that the minimum steady state voltage on the network is 90% of nominal voltage and the maximum steady state voltage is 110% of nominal voltage. Power and Water is undertaking several projects which will ensure its compliance with this requirement including:

    - The construction of the Marrakai Zone Substation which will address the voltage regulation problem resulting from the increased load growth in the Marrakai area; and

    - The installation of capacitor banks at all of its CBD Switching Stations in order to provide voltage support and consequently increase the ability of the transmission system to supply loads and reduce power and energy losses in the system.

- Security of supply requirements – While Power and Water's Network Planning Criteria requires it to undertake investments to achieve an N-1 deterministic standard, there is flexibility in how prescriptive this standard should be. The N-1 contingency means that the loss of any one (given) component of the network at a time of peak load will not result in the loss of supply to any customers. Several projects on Power and Water's capital works relate directly to establishing a N-1 deterministic standard, including for example:

    - The construction of the Archer Zone Substation – This will eliminate the supply risk associated with an outage at Palmerston by providing a secondary network to the city of Palmerston. This means that the Archer Zone Substation will provide N-1 contingency for the Palmerston Zone Substation[23];

    - The construction of the Frances Bay Zone Substation – This will eliminate the supply risk associated with an outage at the City Switching Station by providing an alternative source of electricity to Darwin's CBD. This means that the Frances Bay Zone Substation will provide N-1 contingency for the City Zone Substation; and

    - The construction of the East Arm Zone Substation – This will eliminate the supply risk associated with an outage at the Berrimah Zone Substation by providing an alternative source of electricity to Berrimah and East Arm. This means that the East Arm Zone Substation will provide N-1 contingency for the Berrimah Zone Substation;

- Reliability of supply requirements – The Commission's Standard of Service Code sets out the standards of reliability, quality and customer service that

[23] The inclusion of zone substations as an N-1 risk is emerging best practice in Australian networks.

Power and Water must satisfy. Several projects on Power and Water's capital works program relate directly to maintaining the minimum service obligation as established in the Commission's Standard of Service Code. These include:

- Replacement of the switchboards at five of Darwin's CBD Zone Substations. Replacing the existing old technology will allow the incoming express feeders to be increased to 1000 amp capacity thereby increasing the reliability of the network and reducing the likelihood of a system outage as well as the duration of an outage;

- The Darwin undergrounding project – The undergrounding of overhead distribution power lines in Darwin's residential suburbs will increase reliability of supply by reducing the network's vulnerability to outages resulting from cyclones, overhanging trees, winds, storms and other weather events; and

- Replacement of the conductor on the Florina Road Feeder – This will increase system reliability by increasing supply capacity and providing a reliable power supply that is within the +/- 10% voltage limits.

Power and Water further notes that there have been changes to its legislative obligations, in particular its occupational health and safety requirements which impose more onerous requirements, including, amongst other things, fencing and traffic management requirements. The changes to these requirements have accordingly increased Power and Water's compliance costs.

7.2.3 Maintain the quality, reliability and security of supply of standard control services; and maintain the reliability, safety and security of the distribution system through the supply of standard control services

Power and Water interprets this to mean that its 2008-09 capital expenditure forecast must allow it to maintain the quality, reliability and security of supply of its standard control services.

Power and Water is required to maintain the quality, reliability and security of supply in accordance with various planning documents including the:

- Network Technical Code;
- Network Planning Criteria; and
- Standards of Service Code.

Costs incurred by Power and Water in complying with these obligations are implicitly included within the expenditure program as part of good engineering practice and Power and Water's Planning Criteria.

7.3 Capital Expenditure Criteria

Power and Water's capital expenditure forecast for 2008-09 satisfies the capital expenditure criteria in clause 6.5.7(c) of the Rules. Clause 6.5.7(c) provides that the Commission must accept Power and Water's forecast capital expenditure for 2008-09 if it is satisfied that the total of the forecast reasonably reflects the capital expenditure criteria.

7.3.1 The efficient costs of achieving the capital expenditure objectives

Power and Water considers that each of the projects that make up its 2008-09 capital expenditure forecast are efficient given its own circumstances and could not have been undertaken at a lower cost. This is because the 2008-09 expenditure forecast associated with each of the capital projects is calculated on the basis of:

- Required materials and equipment – Power and Water will purchase all required materials and equipment through:
    - MM Electrical who supply the bulk of Power and Water's required equipment and materials and was selected through competitive tender; and
    - Either a standing contract for supply or a new supply contract, for items not supplied by MM Electrical. All standing offer contracts and any new supply contract are awarded based on a competitive tender process consistent with Power and Water's established procurement process. The associated costs are therefore deemed to be efficient;
- Contract labour – Power and Water engages contractors required to undertake, amongst other things, civil works (i.e. landscaping, establishing footings and erecting required fencing) and construction works in accordance with its competitive tender procedures. Where actual contracts were not available for inclusion in the 2008-09 expenditure forecast, Power and Water based its expenditure forecast on past contract costs for undertaking similar works (which in the current market are likely to be understated if anything); and
- Project management and internal resourcing – Power and Water staff will undertake some of the construction associated with various projects on the 2008-09 capital works program and will also oversee the management of some projects. The forecast expenditure associated with Power Networks staff is efficient because it is based on the salary and allowances provisions established in the 2007-2010 UCA.

7.3.2 The costs that a prudent operator in the circumstances of the relevant Distribution Network Service Provider would require to achieve the capital expenditure objectives

Each of the projects comprising its 2008-09 capital expenditure forecast is prudent because the projects:

- Could not have been deferred or avoided while satisfying its regulatory and legislative obligations and requirements, including in relation to reliability and security of supply, voltage requirements or occupational health and safety requirements. Further, many of the projects on the 2008-09 works program commenced well before 2008-09 and the expenditure allocated to that year is required to complete the project;
- Could not have been substituted for other activities including non-network solutions or operating expenditure solutions. In no case was a non-network solution considered to be a feasible alternative for any of the required projects and in many cases the projects had previously been deferred and deferring the project is no longer consistent with supply reliability, security and safety requirements; and
- Are set at their minimum efficient levels (i.e. capacity, security, reliability) while having regard for future changes, in particular demand and resource availability and costs, that will impact on the required capacity, security and reliability levels.

7.3.3 A realistic expectation of the demand forecast and cost input required to achieve the capital expenditure objectives

Each of the projects in the 2008-09 capital expenditure forecast were based on a realistic expectation of demand, and each project was designed to meet and alleviate a network constraint that has been identified by network planners, based on standard engineering methods of estimating the demand at substations and transformers.

Power and Water has set out in Attachment A its methods of estimating the costs for each project, and the basis for estimating the demand for each project. Some have been based on "like" projects, some have been based on precise tender outcomes with pricing catalogues and some have been built up using estimated prices and expected equipment to be installed. All expectations are realistic, reasonable and have formed the basis for Power and Water's capital expenditure forecasts not just for this Regulatory Proposal, but also within Power and Water's Statement of Corporate Intent.

8 Establishing the 2008-09 Asset Base

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.

This section explains why Power and Water has not complied with the requirements of paragraphs 2.24 or 5.39 of the Final Decision Paper in this Regulatory Proposal, and why the Commission should accept this aspect of its Regulatory Proposal.

8.1 The Commission's Off-Ramp Asset Valuation

The July 2002 asset valuation of $350 million was determined by the Commission in its Off-Ramp Decision which was released subsequent to the 2004 Final Decision for the second regulatory control period.

Power and Water's understanding of the 2004 Final Decision is that the Commission could not rely on the DORC asset valuation submitted by Power and Water and so had no choice but to determine an initial regulatory asset value for the purposes of establishing a Po factor for the next regulatory control period.

Power and Water has addressed the Commission's concerns and is now in a position to submit an asset valuation that is more clearly in line with the objectives of the Access Code and establishes an independently verified asset base. It is clearly, in our view, preferable to relying on an essentially arbitrary valuation however necessary it was considered at the time.

8.2 SKM Asset Valuation

Power and Water engaged SKM in 2007 to conduct an Optimised Depreciated Replacement Cost (ODRC) valuation of all of its Generation, Networks, Water and Waste Water assets. The asset valuation provided an independently determined cost to replicate the existing network assets with Modern Equivalent Assets (MEAs) of the same current and intended function and service delivery capability. SKM's Report has been attached to this Regulatory Proposal (Appendix C).

SKM determined the value of the regulated assets to be $562.3 million as at 1 July 2007.

SKM undertook this valuation in accordance with NSW Treasury document, "Valuation of Electricity Network Assets – A Policy Guideline for NSW DNSPs (May 2003), and based its approach on the following three distinct steps:

- First - to establish the current replacement cost of the modern equivalent of assets in service at the valuation date;
- Second – to depreciate the replacement cost to reflect the remaining effective life of the assets in service; and

- Third – to adjust the depreciated replacement cost for over-design, over-capacity and redundant assets (optimisation).

8.3 Rolling forward the 2007 Asset Base Valuation

Power and Water has used the Commission's Po Adjustment Model to calculate the Po adjustment factor for standard control services. Power and Water has also amended the Commission's Po adjustment model to take account of the use of the SKM asset values. This is discussed in detail in section 9 of this Regulatory Proposal.

8.4 Why the Commission should accept the SKM Valuation over the $350 Million Roll-Forward

The Commission dealt with the required asset roll-forward methodology in paragraphs 5.32 to 5.39 of the Final Decision Paper, where it mandated the use of the $350 million roll-forward.

Paragraph 5.33 notes that the Commission would only consider departing from this position in the event that this "…*will give rise to financial viability problems for Power and Water during the third regulatory period*". The Commission further noted in paragraph 5.34 that its interpretation of "financial viability" was "*a high level of certainty that a business will be able to pay its bills as they fall due…*".

In a letter to Power and Water in July 2008, the Commission noted that it would consider the issue of the appropriate asset valuation against clause 63 of the Access Code, noting:

> *For clause 63(aa) purposes, however, expected cashflows relative to expenditure (both capital and operating) are what matter, not (the return on and of) DORC asset values per se. Capital expenditure forecasts are particularly critical. Moreover, increasing regulatory asset values is only one way to address any insufficiency in cashflows (even if the latter can be demonstrated).*

Power and Water considers that the Commission cannot maintain this position as it is illogical and arbitrary and will give rise to financial viability problems for Power Networks.

While clause 63(aa) of the Access Code provides some guidance and a great deal of flexibility for the Commission to determine the "long run costs of supply", the Commission must exercise its discretion in this matter in recognition of its obligations under clause 68 of the Access Code.

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. The Commission has stated it will only consider amending the $350 million roll-forward methodology on the basis of whether Power and Water can afford to meets its bills as they fall due. Such an interpretation is illogical and without any reasonable basis of support when considered against prevailing regulatory precedent interstate which provides for an industry WACC on a DORC assessed asset value. The Commission must not apply an incorrect test or fail to take relevant considerations into account in making a determination of Power and Water's asset base in 2008-09.

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[24] 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[25]) results in negative investment returns. In light of this risk, no rational private sector investor would invest. The NEM investment regime reflects this reality.

On this basis, if no other, the SKM valuation should be preferred.

[24] Most notably, Professor Bill Hogan, Harvard University, and Productivity Commission.

[25] The effective write-down if the Commission rejects this Regulatory Proposal.

9 Po Adjustment Factor for Standard Control Services

This section explains and justifies the amounts, values and inputs used by Power and Water in the Commission's Po Adjustment Model for standard control services. It also details the Po adjustment factor that is produced by the Po Adjustment Model. These matters are addressed by reference to the regulatory requirements for this Regulatory Proposal that are specified in the Final Decision Paper, as discussed in section 3 above.

In particular, this section satisfies the requirements of paragraph 2.8 of the Final Decision Paper that the proposed Po adjustment factor be accompanied by:

- Details of all amounts, values and inputs relevant to the calculation of the Po adjustment factor;
- 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 the relevant requirements of the Final Decision Paper.

As noted in Section 8, Power and Water has not applied a 2008-09 asset value based on the roll-forward of the $350 million asset valuation at 1 July 2002 in accordance with paragraph 5.39 of the Final Decision Paper. It has instead used the value determined by SKM in its Asset Verification and Valuation Report.

9.1 Nature of Standard Control Services

In accordance with the Commission's Interim Approval on the classification of Power and Water's distribution services, standard control services include conveyance services and connection services.

Conveyance services involve Power and Water:

- Providing electricity transfer capacity for its regulated network in Darwin, Katherine, Tennant Creek and Alice Springs;
- Augmenting the shared distribution network through its capital expenditure program;
- Controlling and ensuring that the characteristics (e.g. voltage and harmonics) of the electricity being transferred are suitable and within legislative limits; and
- Undertaking associated activities to ensure the shared distribution network is fit for purpose, secure from interference, reliable in function and safe in operation.

Connection services relate to building connection assets at the customer's premises as well as connecting those connection assets to the distribution network. Connection services are usually dedicated to the particular customer, and not shared with other customers. The assets that are built and energised through this service include:

- Small users (using less than 750 MWh per annum):
    - Connection assets (service lines, terminations, transformers), including permanent unmetered connections; and
    - Accumulation metering installations.
- Large users (using in excess of 750 MWh per annum):
    - Dedicated lines, transformers (within and outside the network user's land);
    - Connection assets; and
    - Interval metering installations.

9.2 Establishing the Asset Base for Standard Control Services

Power and Water has amended the Commission's Po Adjustment Model to take account of its decision to use the SKM asset valuation. A copy of Power and Water's completed Po Adjustment Model has been provided to the Commission as Appendix D to this Regulatory Proposal.

9.3 Pre-Tax Rate of Return Parameter Values

Paragraph 2.24 of the Final Decision Paper requires that, when applying the Commission's Po adjustment model, Power and Water must apply any parameters that have been determined by the Commission.

Paragraph 2.27 of the Final Decision specifies the following parameters in relation to the weighted average cost of capital:

- Equity beta would be 1.0;
- The market risk premium would be 6.0%;
- The proportion of debt funding would be 60%; and
- Gamma would be 50%.
- In addition, the Commission's Po Adjustment Model specifies the method by which the weighted average cost of capital is to be calculated and applied to the regulatory asset base to determine the rate of return for the purposes of inclusion in the building block calculation of the revenue requirement for 2008-09.

Power and Water confirms that it has applied the four parameters specified by the Commission, as well as the approach specified in the Commission's Po Adjustment Model, for the purposes of calculating the weighted average cost of capital and the rate of return.

In addition, consistent with the requirements of paragraph 5.31 of the Final Decision Paper, Power and Water has calculated the other weighted average cost of capital parameters in accordance with the relevant provisions of Chapter 6 of the Rules.

Risk Free Rate

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. For the purposes of this Regulatory Proposal, Power and Water has used the estimate of the risk free rate set out in the Commission's Po Adjustment Model at 6.0% however the Commission should update this based on latest information in its Final Decision.

Debt Risk Premium

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. [26]

It expects that the Commission will update this based on latest information in its Final Decision.

[26] Available at http://www.esc.vic.gov.au/NR/rdonlyres/085B3F1D-438A-426C-A1E6-6F9FF07983BB/0/ACGDebtMarginforESCV.pdf

Forecast inflation

Power and Water has used the inflation rate forecast of 3.0% set out in the Commission's Po Adjustment Model for the purposes of this Regulatory Proposal. It expects that the Commission will update this based on latest information in its Final Decision.

Pre-Tax Weighted Average Cost of Capital

Power and Water has used the outputs of the Commission's Po Adjustment Model based on the above parameters, culminating in a pre-tax nominal WACC of 10.45% and a pre-tax real WACC of 7.23% percent. It expects that the Commission will update this based on latest information in its Final Decision.

9.4 Capital Expenditure

As Power and Water has used the asset valuation recommended by SKM for the opening asset value as at 1 July 2007, only capital expenditure for 2007-08 and 2008-09 has been included in the Commission's Po Adjustment Model. Power and Water has used the Commission's Po Adjustment Model to roll forward the asset base from this point, and has therefore complied with the requirements of clause 6.5.1 of the Rules in relation to the roll forward of its capital expenditure in its regulatory asset base.

In rolling forward its regulatory asset base, Power and Water has used:

- Actual capital expenditure for 2007-08. The 2007-08 values were recently finalised and will be reported to the Commission in Power and Water's next regulatory accounts. The Commission should note that no prudency review has been undertaken in relation to 2007-08 capital expenditure and no adjustments have been made to them, for the purposes of including them in the Po Adjustment Model, from what has been, or will be, presented in Power and Water's regulatory accounts. This approach is consistent with:
    - The application of Chapter 6 of the Rules to NEM distributors, which does not provide for any prudency reviews being undertaken in determining the opening regulatory asset base for a regulatory control period. Rather, actual capital expenditure is to be used; and
    - Discussions held between officers from Power and Water and the Commission where the approach of applying actual capital expenditure values was discussed and agreed for use in the third regulatory control period.

Power and Water has, however, set out detailed information on its capital expenditure for 2007-08 for the Commission's information in Appendix B. This information will allow the Commission to consider each of the projects that made up the 2007-08 capital expenditure, in particular the drivers for the project and the basis for the cost of the projects.

Forecast capital expenditure for 2008-09, which has been determined and further justified based on the requirements of clause 6.5.7 of the Rules.

Appendix A of this Regulatory Proposal provides a detailed breakdown and explanation of Power Networks' 2008-09 capital expenditure program.

9.5 Depreciation

Paragraph 2.24 of the Commission's Final Decision Paper requires that Power and Water's annual depreciation expense be prepared to conform to the requirements of clause 6.5.5(b) of the Rules.

The Commission's Po Adjustment Model does not calculate the annual depreciation expense. Rather, it requires 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.

As Power and Water has used the SKM asset valuation, the calculations for depreciation are calculated by formulae that have been inserted into the Commission's Po Adjustment Model. Power and Water has calculated:

- 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.

Power and Water's approach to determining depreciation meets the requirements of clause 6.5.5(b) of the Rules as:

- 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:

    - A straight line approach to depreciating its individual assets;

    - Values for the existing asset base that were recommended by SKM;

    - Values for capital expenditure for 2008-09 that are explained and justified in this Regulatory Proposal; and

    - Remaining and useful asset lives that were determined by SKM.

- The economic lives of the relevant assets and the depreciation methods and rates underpinning the calculation of Power and Water's depreciation are consistent with those determined for the same assets on a prospective basis,

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

- A straight line approach to depreciating its individual assets; and
- Remaining and useful asset lives that were approved by the Commission and determined by SKM.

The depreciation amount for 2008-09 is $18.0 million.

9.6 Operating Expenditure

Paragraph 2.24 of the Final Decision Paper requires that Power and Water's estimated operating expenditure must be calculated, determined or estimated consistent with:

- The requirements of clause 6.5.6(c) of the Rules;
- The manner used to calculate the X_2 value underlying the X factor as determined by the Commission; and
- Power and Water's approved cost allocation procedures.

Power and Water has provided a detailed breakdown and explanation of its forecast operating expenditure for 2008-09 in section 6 of this Regulatory Proposal and in the Commission's Po Adjustment Model.

The operating and maintenance expenditure forecast for 2008-09 is $57.6 million.

Power and Water confirms that this value is consistent with the manner used to calculate the X_2 value underlying the X factor as determined by the Commission, as is required by paragraph 2.24 of the Commission's Final Decision Paper.

9.7 Proposed Required Revenue for 2008-09 (R*)

Power and Water has included the amounts, values and inputs calculated on the basis of the sections above in the Commission's Po Adjustment Model. On this basis, it has calculated the required revenue for 2008-09 for its standard control services using a building block approach. This is the "R*" value for the purposes of the calculation of the Po adjustment factor.

The amounts of each building block component, and the total required revenue for 2008-09, are detailed below.

Table 4: Building Blocks Components - Po Adjustment Model

Cost	2008-09 ($'000s)
Return on Opening Capital	63,334
Return on New Capital	1,989
Return of Capital (Depreciation)	17,978
Operating Expenditure	57,570
Total 2008-09 Required Revenue (R*)	**$140,871**

9.8 Estimated 2008-09 Tariff Revenue (R)

Paragraphs 5.58 and 5.64 of the Final Decision Paper require Power and Water to specify the total annual revenue expected from all related network tariffs during 2008-09. This is the "R" value for the purposes of the calculation of the Po adjustment factor.

Power and Water confirms that its estimated annual revenue for 2008-09 from all related network tariffs is $76.034 million.

Power and Water's revenue as required by the Po Adjustment Model is set out in the following table.

Table 5: Power and Water Tariff Revenue – 2008-09 Forecast

Revenue Component	$'000
Non Contestable Customer Revenue	58,264
Contestable Customer Revenue	17,674
Total Sales Revenue	**75,938**
Services Rendered	n/a
Miscellaneous Charges	n/a
Capital Contribution - PWC Owned Assets	n/a
Capital Contribution – DSEP	n/a
Loan Contribution – DSEP	n/a
Recoverable Works on PWC assets	n/a
Gross Gifted Network Assets	n/a
Rental Income	46
Proceeds on Disposal of Assets	-
Other Income not elsewhere defined	50
Total Non-Sales Revenue	**96**
TOTAL REVENUE	**$76,034**

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.

9.9 Po Adjustment Factor for 2008-09

Paragraph 2.8 of the Final Decision Paper requires that Power and Water's Regulatory Proposal must include a proposed Po adjustment factor calculated using the Commission's Po Adjustment Model.

Paragraph 5.18 of the Final Decision Paper provides that the Po adjustment factor is to be calculated as follows:

Po = (R* - R) / R

Where:

R* is the latest estimate of the total cost (in $ millions) in 2008-09 of supplying the network access services whose tariffs are to be included in the tariff basket in 2009-10; and

R is the latest estimate of the total revenue (in $ millions) in 2008-09 derived from the existing tariffs applying to the network access services that are to be included in the tariff basket in 2009-10.

Power and Water's proposed Po adjustment factor, as calculated by the Po Adjustment Model, is 85.28%, as set out in Table 6.

Table 6: Po Calculation for 2008-09 ($'000)

Required Revenue (R*)	140,871
Estimated Revenue (R)	76,034
Proposed Po	**85.28%**

Consistent with the requirement in paragraph 5.19 of the Final Decision Paper, a single Po adjustment factor has been calculated covering all of Power and Water's regulated networks.

10 Treatment of Alternative Control Services

This section explains and justifies the proposed control mechanism to apply to Power and Water's alternative control services and the methodology that is to be used for establishing prices for these services.

10.1 Nature of Alternative Control Services

In accordance with the Commission's Interim Approval on the classification of distribution services for the third regulatory control period, Power and Water's alternative control services will comprise Power and Water's:

- Existing excluded services – also termed "miscellaneous services" – including the maintenance of streetlights; and
- Above-standard connection services and other quoted services.

10.2 Proposed Control Mechanisms

Paragraph 2.10 of the Commission's Final Decision Paper requires Power and Water to propose a control mechanism in relation to its alternative control services.

Paragraph 2.20 of the Commission's Final Decision Paper requires that Power and Water's proposed control mechanism meets the requirements of clause 6.2.5 of the Rules.

Power and Water detailed its proposed control mechanism for its alternative control services in the services classification proposal that it submitted to the Commission in June 2008.

Existing Excluded Services

Power and Water's proposed control mechanism for existing excluded services is a build up of costs based on the estimated forward-looking costs of providing these services.

Power and Water's current methodology for establishing the prices for these services is to apply a standard labour rate to an anticipated average time taken to complete the work. Power and Water's methodology for establishing this cost based price, including the method by which it allocates administrative and overhead costs to these services, is detailed in section 10.3.

Above-standard connection services and other quoted services

Power and Water's proposed control mechanism for above standard connection services and other quoted services is a formula such that the price is equal to:

- The materials employed for the project multiplied by the cost of those materials; PLUS

- The labour involved for the project (in hours) multiplied by the hourly rate including on-costs for that project.

Power and Water also reserves the right to charge a profit margin not exceeding the WACC amount approved by the Commission.

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.

Power and Water's proposed control mechanism for these services involves:

- Applying a schedule of fixed prices, which for this purpose would be a quotation provided by Power and Water before the service is provided. This is permitted under 6.2.5(b)(1) of the Rules as one of the six types of control mechanisms that can be applied to alternative control services; and

- A modification to Part C of the Rules, which is permitted under 6.2.6(c) of the Rules.

On this basis, Power and Water considers that its proposed control mechanism for these services is consistent with paragraph 2.20 of the Commission's Final Decision Paper.

10.3 Methodology for Establishing Prices for Alternative Control Services

Power and Water's proposed methodologies for establishing prices for its alternative control services are consistent with its proposed control mechanisms.

Existing Excluded Services

Power and Water has been careful to ensure that its prices for its existing excluded services that will become alternative control services reflect the costs of supply. Power and Water has done this by:

- Estimating the time taken in hours for travel to and from Power and Water's depot for the identified service;

- Estimating the time taken in hours for Power and Water to undertake and complete the works;

- Estimating the number of Power and Water staff required to undertake the works;

- Developed prices for the services based on business hours or after hours where:

    - Services in business hours were costed using an average labour rate (overheads inclusive) of $65 per hour;

    - Services after-hours were costed using an average labour rate (overheads inclusive) of $85 per hour;

    - No allowance was made for trucks or capital equipment to deliver the service, as there is no practical basis for making such an allocation; and

    - A zero margin was included in the prices for all services. This means that only the full cost is being recovered by Power and Water.

The prices for these 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.

Above-standard connection services and other quoted services

Power and Water will develop cost based quotations for above-standard connection services and other quoted services which cannot be set in advance given the uncertain nature of the works required.

11 Cost Pass Through

This section sets out Power and Water's proposed additional cost pass through events to apply in relation to the provision of standard control services in the third regulatory control period.

Paragraph 6.42 of the Final Decision Paper allows Power and Water to propose additional pass through events to those established under clause 6.6.1 of the Rules. Chapter 10 of the Rules defines pass through events, as referred to under clause 6.6.1 as being:

> *Any of the following is a pass through event:*
>
> *(a) a regulatory change event;*
>
> *(b) a service standard event;*
>
> *(c) a tax change event;*
>
> *(d) a terrorism event.*
>
> *An insurance event is a pass through event for a transmission determination (in addition to those listed above).*
>
> *An event nominated in a distribution determination as a pass through event is a pass through event for the determination (in addition to those listed above).*

In summary, these events can be defined as follows:

- *Regulatory Change Event:* is a change in a regulatory obligation or requirement that falls within no other category of pass through event and occurs during the course of a regulatory control period. In addition, the change in the regulatory obligation or requirement must substantially affect the manner in which Power and Water provides Direct Control Services. The change must also materially increase or decrease the cost of providing those services.

- *Service Standard Event:* is a legislative or administrative act or decision that has the effect of:

  - Substantially varying the manner in which Power and Water is required to provide a Prescribed Transmission Service, or a DNSP is required to provide a Direct Control Service;

  - Imposing, removing or varying minimum service standards applicable to Direct Control Services; or

  - Altering the nature and scope of the Direct Control Services.

- *Tax Change Event:* is a change in, or removal or imposition of, a relevant tax payable by Power and Water which materially increases or decreases the cost to the service provider of providing Direct Control Services.

- *Terrorism Event*: is an act of any person or group which, from its nature or context is done for, or in connection with, political, religious, ideological, ethnic or similar purposes or reasons, which materially increases the costs of providing Direct Control Services.

As noted, each of the above events could be the subject of a pass through application under paragraph 6.35 of the Final Decision Paper and clause 6.6.1 of the Rules if they occur during the third regulatory control period and result in materially higher or lower costs to Power and Water in providing Direct Control Services.

Power and Water proposes the following pass through mechanisms for the purposes of paragraph 6.42 of the Final Decision Paper:

- Force majeure events;
- Material variances in cost or demand inputs to those assumed at the time of the determination;
- Changes to compliance obligations;
- Connection of large customers; and
- Costs associated with any separation of Power and Water's Retail business or structural reform process.

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.

11.1 Force majeure event

Power and Water proposes an additional pass through provision for weather related and other events such as major storms, earthquakes and fire, which are beyond Power and Water's reasonable control.

Power and Water proposes the following additional pass through event (in summary) for the Determination:

Force majeure event: is any 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 control period and materially increases the cost to Power and Water of providing Standard Control Services.

11.2 Cost or demand input variance event

Power and Water proposes a pass through event to cover unexpected or unforeseeable changes in demand or cost movements that either trigger new investments or materially alter the costs of current or planned investments.

Given that unexpected or unforeseeable changes in demand or cost inputs are beyond Power and Water's control, Power and Water considers it reasonable for risk in relation to these events to be shared with customers. Power and Water will bear the risk of changes in demand or variances in cost movements with an impact below the proposed materiality threshold, but seeks a pass through of the costs of providing services above this materiality threshold.

Power and Water therefore proposes the following additional pass through clause:

Cost or demand input variance event: is an event involving any change in actual cost movements or demand during the regulatory control 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.

11.3 Compliance event

Power and Water also proposes an additional pass through provision for any significant changes to the legislative and regulatory obligations that apply to Power and Water in running its business and its network.

A regulatory change event is defined by reference to regulatory obligations or requirements as defined in Section 2D of the *National Electricity Law*. This definition is relatively limited in its application. Similarly, a service standard event does not cover changes in compliance obligations other than those arising from a legislative or administrative act or decision.

To address this gap, Power and Water proposes a pass through event to address changes to its compliance obligations outside the definitions of regulatory change event and service change event.

As Power and Water is not aware of the scope or impact of these obligations at this stage, it is unable to cost them. To the extent that these changes, if implemented, do not fall within the categories of regulatory change event or service change event, Power and Water seeks comfort that any material increases in the cost to Power and Water of supplying services as a result of these obligations will be covered by the compliance event pass through category.

Power and Water's proposed pass through event (in summary) for inclusion in the Determination is set out below.

Compliance event: is 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.*

11.4 Customer connection event

Power and Water proposes an additional pass through provision for any material increases in costs associated with the augmentation of its network to:

- Meet network connection requirements; or
- To establish a new substation to supply load requested by a developer or end use customer.

These requirements are initiated by customers or developers on an "as needs" basis during the regulatory control period which means that Power and Water is not able to accurately forecast these types of customer connection requirements in advance. So that it does not bear the full risk of increases in costs beyond its control, Power and Water seeks to be able to pass through increases in the cost of supplying services beyond an agreed materiality threshold arising from customer connections.

Power and Water proposes the following pass through event (in summary) for inclusion in the Determination:

Customer connection event: is 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.

11.5 Separation event

Power and Water proposes an additional pass through provision for any separation of its business arms such as its Power Networks business from its Retail business. Power and Water is unable to scope or cost a separation event.

Power and Water proposes the following pass through event (in summary) for inclusion in the Determination:

Separation event: A separation event is any 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.

12 Draft Network Pricing Principles and Methods Statement

Paragraphs 7.40 and 7.42 of the Final Decision Paper requires Power and Water's Regulatory Proposal to include, for standard control services, a draft Network Pricing Principles and Methods Statement to apply to the setting of individual network tariffs.

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 direct control services.

The Commission indicated that it would approve the draft Network Pricing Principles and Methods Statement submitted by Power and Water if it was satisfied that this statement is consistent with:

- The applicable requirements of the Final Decision Paper;
- Any applicable requirements of the Access Code; and
- Clauses 6.18.3, 6.18.4 and 6.18.5 of the Rules.

Power and Water notes that it has not sought to meet paragraph 7.30 of the Final Decision Paper which provides a permissible percentage change in the first year of the third regulatory control period, as it does not yet know the final X factor that will apply. For the purposes of this Regulatory Proposal, it has applied the Po factor to its 2008-09 tariffs to derive the 2009-10 tariffs.

12.1 National Electricity Rules

The relevant clauses of the Rules and Power and Water's response are discussed below.

Clause 6.18.3 – Tariff classes

Clause 6.18.3 of the Rules states:

> *(a) A pricing proposal must define the tariff classes into which customers for direct control services are divided.*
>
> *(b) Each customer for direct control services must be a member of 1 or more tariff classes.*
>
> *(c) Separate tariff classes must be constituted for customers to whom standard control services are supplied and customers to whom alternative control services are supplied (but a customer for both standard control services and alternative control services may be a member of 2 or more tariff classes).*
>
> *(d) A tariff class must be constituted with regard to:*

> *(1) the need to group customers together on an economically efficient basis; and*
>
> (2) *the need to avoid unnecessary transaction costs.*

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.

In relation to 6.18.3(a), Power and Water submits that its pricing proposal defines the tariff classes into which customers for direct control services are divided. These tariff classes are set out in its tariff schedules which are separated first into geographical areas (Alice Springs, Tennant Creek and Darwin/Katherine), and then into consumption bands that are above and below 750MWh.

With respect to 6.18.3(b), Power and Water submits that each customer for direct control services is a member of 1 or more tariff classes. There are no customers of Power and Water that are not attached to a tariff class.

With respect to 6.18.3(c), Power and Water submits that it has established separate tariff classes which must be constituted for customers to whom standard control services are supplied and customers to whom alternative control services are supplied. It has done this by establishing a tariff schedule for standard control services and a tariff schedule for alternative control services.

With respect to 6.18.3(d), Power and Water has established its tariff classes on a geographical, demand and energy basis as it considers that this is the most economically efficient and lowest transaction cost basis to do so.

Clause 6.18.4 – Principles governing assignment or re-assignment of customers to tariff classes and assessment and review of basis of charging

Clause 6.18.4 of the Rules states:

> *(a) In formulating provisions of a distribution determination governing the assignment of customers to tariff classes or the re-assignment of customers from one tariff class to another, the [Commission] must have regard to the following principles:*
>
> *(1) customers should be assigned to tariff classes on the basis of one or more of the following factors:*
>
> *(i) the nature and extent of their usage;*
>
> *(ii) the nature of their connection to the network;*
>
> *(iii) whether remotely-read interval metering or other similar metering technology has been installed at the customer's premises as a result of a regulatory obligation or requirement;*
>
> *(2) customers with a similar connection and usage profile should be treated on an equal basis;*

> *(3) however, customers with micro-generation facilities should be treated no less favourably than customers without such facilities but with a similar load profile;*
>
> *(4) a Distribution Network Service Provider's decision to assign a customer to a particular tariff class, or to re-assign a customer from one tariff class to another should be subject to an effective system of assessment and review.*
>
> *(b) If the charging parameters for a particular tariff result in a basis of charge that varies according to the usage or load profile of the customer, a distribution determination must contain provisions for an effective system of assessment and review of the basis on which a customer is charged.*

With respect to 6.18.4(a)(1), Power and Water submits that customers are assigned on the basis of geographical location, usage and size. Remotely read interval meters are installed on all customer connections in excess of 750 MWh per annum.

With respect to 6.18.4(a)(2), Power and Water submits that customers in the same region with the same connection and usage profiles are treated on a similar basis.

With respect to 6.18.4(a)(3), Power and Water does not have customers with micro-generation facilities.

With respect to 6.18.4(a)(4), Power and Water does not reassign customers without careful review. Generally, reassignment only occurs in situations where a customer becomes contestable, and moves to a tariff class for customers using above 750 MWh per annum.

With respect to 6.18.4(b), Power and Water reviews and, if necessary, rebalances its tariffs each year and will continue to do so throughout the next regulatory control period.

Clause 6.18.5 – Pricing principles

Clause 6.18.5(a) of the Rules requires that:

> *For each tariff class, the revenue expected to be recovered should lie on or between:*
>
> *(1) an upper bound representing the stand alone cost of serving the customers who belong to that class; and*
>
> *(2) a lower bound representing the avoidable cost of not serving those customers.*

This pricing principle:

- Does not require that the prices lie between an upper and lower bound – rather, it requires that the revenue to be recovered from a tariff class lie between an upper and lower bound. Power and Water understands that this part of Chapter 6 of the Rules was developed to:

- Reflect "the cost benefit trade-off between sending customised cost and price signals to individual customers and the impracticability of developing a tariff for each individual customer, particularly where individual customers have relatively small levels of demand"[27]; and

- Allow DNSPs the flexibility to "set tariffs based on potential differences in the willingness to pay of different customers or groups of customers" and "provide prudent discounts to customers where it is efficient to do so"[28];

- Clearly allows for revenue for a tariff class to be the difference from the average costs of serving that tariff class – by "bounding" the costs that are allowed to be recovered from that tariff class; and

- The stand-alone cost for a tariff class is the cost for Power and Water to provide distribution network services solely to customers in that tariff class. If there is only one tariff class in the network, the stand-alone cost is equivalent to the cost of the distribution network. In a network with two tariff classes, A and B, the standalone cost for tariff class A will be a fraction of the total cost of the distribution network.

For a distribution network, the stand-alone (or upper bound) costs must be the cost of running a new connection to every installation comprising the tariff class, which should be equivalent to the bypass cost; calculation of this cost is not considered feasible. Instead, Power and Water has calculated stand-alone costs as the costs of serving all of the customers currently accessing services under that tariff class, if no other tariff classes were being served from Power and Water's system. This is equal to the costs of installing and maintaining the shared network (which would be solely allocated to that tariff class) and the connection costs designated to that tariff class. It therefore does not include costs associated with shared and connection assets designated to other tariff classes. The amount recovered from a tariff class will always be less than this amount if there are multiple tariff classes, which there are.

Power and Water calculates the avoidable (lower bound) costs of serving a tariff class as the total cost avoided if that tariff class was not served, while other tariff classes remained served. This is equal to the costs of the connection assets designated to that tariff class (shared costs are incurred irrespective of whether this tariff class is served or not). Given that the costs of connecting a customer are charged as fixed charges, any customer which access the shared network (i.e. uses energy) must pay more than the incremental cost.

Clauses 6.18.5(b) and (c) of the Rules require that:

> *(b) A tariff, and if it consists of 2 or more charging parameters, each charging parameter for a tariff class:*
>
> *(1) must take into account the long run marginal cost for the service or, in the case of a charging parameter, for the element of the service to which the charging parameter relates; and*

[27] See Section 4.2.1 "Use of aggregate tariff revenues by tariff class", page 23, *Distribution Pricing Rule Framework*, Network Policy Working Group Report, December 2006.

[28] Ibid, page 23.

(2) must be determined having regard to:

(i) transaction costs associated with the tariff or each charging parameter; and

(ii) whether customers of the relevant tariff class are able or likely to respond to price signals.

(c) If, however, as a result of the operation of paragraph (b), the Distribution Network Service Provider may not recover the expected revenue, the provider must adjust its tariffs so as to ensure recovery of expected revenue with minimum distortion to efficient patterns of consumption.

These issues are addressed in turn below.

12.2 Tariffs and LRMC

In relation to clause 6.18.5(b)(1), Power and Water has sought to ensure that its tariff structures and levels send the types of signals that are consistent with the principles of recovering LRMC. In order to do this, Power and Water has identified a number of general pricing principles which it considers are consistent with the concept of LRMC and has sought to apply these to its prices. These principles are set out in the Distribution Pricing Rule Framework, Network Policy Working Group Report in December 2006. That report:

- Noted the importance of the basis of charging for the recovery of LRMC, by ensuring that tariff setting involves the identification and consideration of all available usage basis and associated charging parameters;

- Set out a range of possible charging parameters, and corresponding bases for those charges, which were considered to reflect marginal cost; and

- Noted that it is preferable that DNSPs have discretion to apply efficient pricing principles in determining charging parameters than for Regulators to prescribe them.

In developing its tariffs, Power and Water has structured the charging parameters to signal the impact that customers will have on the network, manage demand and volume variance risk, and avoid sending signals that could result in inefficient choices being made by customers of that tariff class. In this context:

- Power and Water's fixed charges for each tariff send a signal to customers about the cost of their connection works and sets a constant and foreseeable price for those customers which assist them in making a decision to connect with full visibility of the costs. The fixed charges also provide Power and Water with a fixed revenue source by which it can recover its costs and therefore ensure that upstream investment decisions can be made with clarity;

- Power and Water's demand tariffs provide the principal signal to the customer of their utilisation of the network at peak times, which in turn signals Power

and Water to invest in capital infrastructure. Demand components also send direct signals to those customers which do not use the system often, but demand a high percentage of network capacity when they do use the system; and

- Power and Water's volume charges are designed to recover the costs of the shared network on a basis which reflects the characteristics of the network user.

12.3 Transaction Costs and Signals

Clause 6.18.5(b)(2) requires that:

> *A tariff, and if it consists of 2 or more charging parameters, each charging parameter for a tariff class… must be determined having regard to:*
>
> *(i) Transaction costs associated with the tariff or each charging parameter; and*
>
> *(ii) Whether customers of the relevant tariff class are able or likely to respond to price signals.*

These requirements are discussed below.

Transaction Costs

Power and Water interprets this requirement (tariffs must reflect transaction costs) to mean that:

- The transaction costs are Power and Water's transaction costs, not transaction costs of Power and Water Retail, or any other potential retailer, that Power and Water sells its distribution services to;
- "Transaction costs" are the "administrative costs of charging by (the selected)[29] parameters"[30], which are required to be balanced via a "trade-off between the cost of measurement and the benefits of charging on a given parameter basis";[31] and
- The requirement means that Power and Water must, in deciding whether to establish a new tariff, or establish how many parameters it will include within a tariff, have regard to the costs of measuring the usage parameters and other elements of the charges to customers.

Power and Water considers that it has met this principle because the number and structure of its network tariffs have been established with reference to the transaction costs associated with that number and structure of tariffs. All of Power and Water's tariffs use standard usage and demand parameters which are readily

[29] Clarification in brackets added by Power and Water.

[30] See Section 5.2, "LRMC Pricing Standard", page 33, *Distribution Pricing Rule Framework*, Network Policy Working Group Report, December 2006.

[31] Ibid, page 34.

measurable and provided by means of Power and Water's existing metering and information systems.

Price Signals

In relation to the requirement that a network tariff's "fixed and variable charges" must have regard for whether customers of that tariff class are able or likely to respond to price signals, Power and Water is operating in an environment of partial retail contestability, with non-contestable retail tariffs "masking" many of the price signals provided to non-contestable customers. That said, Power and Water has sought to design tariffs and tariff structures which would be sufficient to send appropriate signals to customers in the event that:

- All customers were contestable; and
- Power and Water's distribution tariffs were "passed through" to customers without being "repackaged" into retail tariffs.

12.4 Requirement to Adjust Tariffs to Recover Revenue

Clause 6.18.5(c) of the Rules requires that:

> *If, however, as a result of the operation of paragraph (b), the Distribution Network Service Provider may not recover the expected revenue, the provider must adjust its tariffs so as to ensure recovery of expected revenue with minimum distortion to efficient patterns of consumption.*

Power and Water understands that:

- This clause applies if, as a result of the operation of principle 6.18.5(b), Power and Water expects not to recover its expected revenue for the upcoming year;
- The clause operates such that, when this under-recovery is forecast, Power and Water must adjust its network tariffs so as to ensure recovery of the expected revenue in a manner which causes minimum distortion to efficient patterns of consumption;
- Prior to using this provision, Power and Water must consider a range of scenarios which could provide the necessary adjustment to tariffs to recover the revenue, noting the distortions to consumption patterns that would eventuate under each scenario; and
- Select that scenario which adjusts revenue but which provides the minimum distortion.

Power and Water considers that it has met the requirements of clause 6.18.5(b) of the Rules and forecasts to recover its revenue requirement. As such, it has not found it necessary to use this provision of the Rules.

13 Initial Pricing Proposal for 2009-2010 for Standard Control Services

13.1 Requirements of the Rules

Paragraphs 2.19 and 7.42 of the Final Decision Paper require Power and Water's Regulatory Proposal to meet conditions relating to network tariffs. Clause 6.18.2(b) also sets out certain requirements that Power and Water must meet.

Paragraph 2.19 requires that the prices proposed in the annual Network Tariff Schedules must "*comply with the price control mechanism as determined by the Commission; and in all other respects be consistent with the approved Network Pricing Principles and Methods Statement*". Power and Water confirms that its prices are consistent with these.

Paragraph 7.42 requires that a Pricing Proposal, must:

- set out Power and Water's proposed Network Tariff Schedules, including the tariff classes that are to apply for the relevant year, the proposed tariffs for each tariff class and, for each proposed tariff, the charging parameters (i.e., the constituent elements of a tariff) and the elements of service to which each charging parameter relates – these are set out in the tariff schedules in this section; and

- describe the nature and extent of change in the proposed Network Tariff Schedules from the tariffs applying in previous regulatory year. Power and Water confirms that it has not changed its tariffs from that in the previous year, except 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.

Clause 6.18.2(b) requires that a Pricing Proposal must:[32]

- set out the tariff classes that are to apply for the relevant regulatory year – these are set out in this section; and
- set out the proposed tariffs for each tariff class – these are set out in this section; and
- set out, for each proposed tariff, the charging parameters and the elements of service to which each charging parameter relates – these are set out in this section; and
- set out, for each tariff class related to standard control services, the expected weighted average revenue for the relevant regulatory year and also for the current regulatory year – this is set out below; and
- set out the nature of any variation or adjustment to the tariff that could occur during the course of the regulatory year and the basis on which it could occur. Power and Water advises that it will only amend its network tariffs in line with the Commission's Determination when it is issued; and
- Describe the nature and extent of change from the previous regulatory year and demonstrate that the changes comply with the Rules and any applicable distribution determination. There have been no changes from the previous year other than to increase the tariffs by the Po and to combine unused and redundant tariff steps as set out above.

The weighted average revenue for 2008-09 and expected revenue for each tariff class for 2009-10, as required by 6.18.2 of the Rules is set out below.

[32] Sub-sections not deemed to apply to Power and Water have been omitted, for example how Power and Water passes-through transmission use of system charges.

Table 7: Expected 2008-09 and 2009-10 Tariff Revenue

Tariff Class	Revenue 2008-09 ($M)	Revenue 2009-10 ($M)
Northern Grid above 750 MWh	14.5	27.8
Alice Springs above 750 MWh	2.2	4.3
Tennant Creek above 750 MWh	0.3	0.5
Northern Grid below 750 MWh - Commercial	40.9	79.3
Alice Springs below 750 MWh - Commercial	7.9	15.3
Tennant Creek below 750 MWh - Commercial	2.2	4.3
Northern Grid below 750 MWh - Domestic	7.0	7.0
Alice Springs below 750 MWh - Domestic	0.8	1.5
Tennant Creek below 750 MWh - Domestic	0.1	0.1
Total	**75.9**	**140.2**

13.2 Tariff Schedules

Schedule 1 - Northern Grid 2009/10 EXCLUDING GST

A - For Customers with consumption above 750 MWh per year

Reference Service Provided: Normal Transmission and Distribution of Electricity consumed through customer's metering for customers supplied and metered at any voltage in the Darwin and Katherine network areas, but excluding common service charges associated with the Darwin Katherine Transmission Line.

	System Availability Charge	$/kVA peak	$/kVA off peak	c/kWh peak	c/kWh off peak
System Availability Charge					
Dollars per month	$620.050				
Plus charges related to monthly demand					
First 50 kVA per month		$9.299	$2.170		
Next 100 kVA per month		$8.062	$1.921		
Next 300 kVA per month		$6.696	$1.675		
Next 500 kVA per month		$5.273	$1.479		
Next 1,000 kVA per month		$3.987	$1.225		
Any further kVA per month		$3.604	$1.095		
Plus charges related to energy metered					
First 10,000 kWh per month				5.624	5.160
Next 20,000 kWh per month				5.001	4.540
Next 50,000 kWh per month				4.228	3.763
Next 100,000 kWh per month				3.708	3.232
Next 200,000 kWh per month				3.067	2.420
Next 200,000 kWh per month				2.746	2.264
Any further energy per month				2.587	2.103

B - For Customers with consumption below 750 MWh per year

Reference Service Provided: Normal Transmission and Distribution of Electricity for customers supplied at low voltage in the Darwin and Katherine network areas, but excluding charges associated with the Darwin Katherine Transmission Line.

	System Availability Charge	c/kWh anytime
System Availability Charge		
Commercial: cents per day	51.802	
Domestic: cents per day	32.600	
Plus charges related to energy metered		
First 1,000 kWh per month (pro-rated per billing period)		11.004
Energy used above 1,000 kWh per month (pro-rated per billing period)		9.381
Street lighting and other unmetered supplies		6.550

Schedule 2 - Alice Springs 2009/10 EXCLUDING GST

A - For Customers with consumption above 750 MWh per year

Reference Service Provided: Normal Transmission and Distribution of Electricity consumed through customer's metering for customers supplied and metered at any voltage in the Alice Springs network.

	System Availability Charge	$/kVA peak	$/kVA off peak	c/kWh peak	c/kWh off peak
System Availability Charge					
Dollars per month	$709.693				
Plus charges related to monthly demand					
First 50 kVA per month		$10.859	$2.318		
Next 100 kVA per month		$9.418	$1.995		
Next 300 kVA per month		$7.665	$1.758		
Next 500 kVA per month		$6.296	$1.658		
Next 1,000 kVA per month		$4.638	$1.325		
Any further kVA per month		$4.308	$1.243		
Plus charges related to energy metered					
First 10,000 kWh per month				5.030	4.499
Next 20,000 kWh per month				4.324	3.793
Next 50,000 kWh per month				3.437	2.901
Next 100,000 kWh per month				2.826	2.277
Next 200,000 kWh per month				2.461	1.723
Any further energy per month				2.092	1.538

B - For Customers with consumption below 750 MWh per year

Reference Service Provided: Normal Transmission and Distribution of Electricity for customers supplied at low voltage in the Alice Springs network.

	System Availability Charge	c/kWh anytime
System Availability Charge		
Commercial: cents per day	59.295	
Domestic: cents per day	37.310	
Plus charges related to energy metered		
First 1,000 kWh per month (pro-rated per billing period)		10.150
Energy used above 1,000 kWh per month (pro-rated per billing period)		8.297
Street lighting and other unmetered supplies		6.288

Schedule 3 - Tennant Creek 2009/10 EXCLUDING GST

A - For Customers with consumption above 750 MWh per year

Reference Service Provided: Normal Transmission and Distribution of Electricity consumed through customer's metering for customers supplied and metered at any voltage in the Tennant Creek network.

	System Availability Charge	$/kVA peak	$/kVA off peak	c/kWh peak	c/kWh off peak
System Availability Charge					
Dollars per month	$594.265				
Plus charges related to monthly demand					
First 50 kVA per month		$12.477	$2.612		
Next 100 kVA per month		$10.696	$2.320		
Next 300 kVA per month		$8.677	$2.021		
Any further kVA per month		$5.349	$1.251		
Plus charges related to energy metered					
First 10,000 kWh per month				6.961	6.514
Next 20,000 kWh per month				6.366	5.918
Next 50,000 kWh per month				5.325	4.880
Any further energy per month				2.800	2.357

B - For Customers with consumption below 750 MWh per year

Reference Service Provided: Normal Transmission and Distribution of Electricity for customers supplied at low voltage in the Tennant Creek network.

	System Availability Charge	c/kWh anytime
System Availability Charge		
Commercial: cents per day	47.595	
Domestic: cents per day	29.747	
Plus charges related to energy metered		
First 1,000 kWh per month (pro-rated per billing period)		20.466
Energy used above 1,000 kWh per month (pro-rated per billing period)		18.980
Street lighting and other unmetered supplies		15.039