

**NETWORK REVENUE
DETERMINATIONS AND
TARIFF APPROVALS: 2002-03
DECISION PAPER
JUNE 2002**



Level 9, 38 Cavenagh Street Darwin NT 0800

GPO Box 915, Darwin NT 0801

Email: www.utilicom.nt.gov.au

Table of Contents

Definitions	iii
1. Background.....	1
Revenue cap – Code requirements	1
Network tariffs – Code requirements	2
Other tariff issues	2
Final year of regulatory control period.....	2
2. Network revenue caps 2002-03	5
Introduction	5
Methodology.....	5
Base MAR	6
Quantity of energy transported	6
Expected inflation	6
‘X’ factors.....	6
Correction factor [K ₁].....	7
Darwin to Katherine Transmission Line	7
Summary of DKTL calculation	8
Determination	9
3. Network reference tariffs 2002-03	11
Methodology underlying PAWA’s proposed network tariffs	11
Approved tariffs for 2001-02	11
PAWA’s proposed tariff schedules for 2002-03.....	12
<i>Adjustment for 2000-01 experience.....</i>	<i>12</i>
<i>Basis for application of tariffs</i>	<i>12</i>
<i>Review on account of extension of contestability timetable.....</i>	<i>13</i>
<i>Change in relativities between demand and energy components in the structured tariff</i>	<i>15</i>
Commission’s assessment of PAWA’s tariff proposal	15
Tariff schedules published by PAWA	16
4. Discounting of network tariffs	17
Discounting framework	17
Definition of standard services.....	18
5. Network access charges for embedded generation.....	21
Introduction	21
Background	21
Issues arising in relation to proposed embedded generation or cogeneration facilities	21
Commission’s approach.....	22
Evolution of network tariffs and charges	23
Guiding principles.....	23
<i>Cost reflectivity.....</i>	<i>24</i>
<i>Competitive neutrality</i>	<i>24</i>
<i>Promoting price stability and consistency</i>	<i>24</i>
<i>Common approach to network users.....</i>	<i>25</i>
The capital contribution required of a new generator for the necessary connection (entry) assets	25
The capital contribution required of a new generator for the necessary connection (exit) assets.....	26
The network usage charges payable on any power imports	26
<i>Standby services versus use of system services.....</i>	<i>26</i>
<i>Modifications necessary to the existing tariff formula.....</i>	<i>27</i>

6.	Issues for consideration leading up to the next regulatory control period	31
	Introduction	31
	Revenue cap issues	31
	<i>Methodology</i>	31
	<i>Benchmarking</i>	32
	<i>Standard services</i>	32
	<i>Excluded services</i>	32
	<i>Unders and overs</i>	33
	Network tariffs.....	33
	<i>Structure of network usage charges</i>	33
	<i>Scope of network tariffs</i>	34
	<i>Differentiation between customer classes</i>	35
	<i>Distribution versus transmission tariffs</i>	35
	<i>Bundled versus unbundled tariffs</i>	35
	APPENDIX A - Unders and overs determination instrument.....	37
	Commission's analysis.....	37
	Under's and over's account summary.....	38
	APPENDIX B - Approved network tariffs	39
	APPENDIX C - Framework for negotiation of discounted network tariffs	45
	Background	45
	Principles	45
	Eligibility for discounts	45
	Negotiating process.....	46
	Quantum and period of discount	46
	Role of the regulator	47
	APPENDIX D - Approved framework for negotiating agreements for network services for embedded generation and similar situations.....	49
	Preamble	49
	<i>Non standards supply situations</i>	49
	<i>Framework for negotiating agreements</i>	49
	Framework.....	50

Definitions

“Act”	means the <i>Utilities Commission Act 2000</i>
“Code”	means the Electricity Networks (Third Party Access) Code attached as a schedule to the <i>Electricity Networks (Third Party Access) Act</i> , as amended
“Commission”	means the Utilities Commission established on commencement of the <i>Utilities Commission Act 2000</i>
“Darwin-Katherine Transmission Line”	means the 132 kV transmission line that interconnects the Darwin and Katherine networks
“first regulatory control period”	means the period between commencement of the Code (on 1 April 2000) and 30 June 2003
“second regulatory control period”	means the period from 1 July 2003 to 30 June 2008
“PAWA Networks”	means the business division of the Power and Water Authority of the Northern Territory (“PAWA”) with operating responsibility for the electricity networks owned by PAWA

Inquiries

Any comments or inquires regarding this Report should be directed in the first instance to the Executive Officer, Utilities Commission at any of the following:

Postal address:
Utilities Commission
GPO Box 915
DARWIN NT 0801

Telephone:
(08) 8999 5480

Fax:
(08) 8999 6262

Email:
utilities.commission@nt.gov.au

CHAPTER**1****BACKGROUND****Revenue cap – Code requirements**

1.1 The Commission's revenue cap determinations relating to the financial year commencing 1 July 2002 are set out in Chapter 2 of this Report. Section 22(2) of the Act requires a final determination of the Commission to include a summary of the information on which the determination is based and a statement of the reasons for making the determination.

1.2 Clause 66(2) of the Code requires that revenue caps be determined by the Commission for each financial year during the regulatory control period.

1.3 With respect to the revenue caps to apply to PAWA Networks, and in accordance with Chapter 6 of the Code, the Commission made three determinations prior to the commencement of the first full year of the first regulatory control period, that is for the year commencing to 1 July 2000:

- the fair and reasonable rate of return to apply during the remainder of the regulatory control period, in accordance with Schedule 8 to the Code (clause 69(2)(b));
- the revenue caps to apply to 2000-01, in accordance with Schedule 6 to the Code (clause 69(1)); and
- the efficiency gains factor (or "X factor") to apply when calculating the revenue caps for 2001-02 and 2002-03, in accordance with Schedule 10 to the Code (clause 70).

1.4 These decisions are set out in the Commission's report titled "Revenue Determinations 2000-01 to 2002-03" ("the June 2000 Report"), issued in June 2000.

1.5 For second and subsequent years of a regulatory control period, the Code requires that the methodology to be used by the Commission is to involve increasing each of the previous year's revenue caps in line with both –

- the factors which the regulator considers to be the main real-terms drivers affecting PAWA Networks' costs (such as the growth in the quantity of electricity transported annually over the electricity network); and
- inflation (as measured by the rate of change in the consumer price index, ("CPI")),

and decreasing them by the respective efficiency gains factor ("X factor") determined for each regional network at the start of the regulatory control period (clause 70(2)).

1.6 In May 2001, the Commission made determinations for the second year of the first regulatory control period (2001-02). The Commission issued a report titled "Revenue Determinations 2001-02" ("the May 2001 Report"), setting out how these revenue caps were determined. The 2001-02 revenue caps form the basis of the Commission's 2002-03 revenue cap determinations.

1.7 The key components of the revenue caps for 2002-03 have been determined in the June 2000 Report and the May 2001 Report. Therefore, in making the determinations for the 2002-03 financial year, the Commission has not undertaken any specific consultations.

Network tariffs – Code requirements

1.8 This Report also provides a summary of the information on which the Commission's approval of PAWA Networks' reference tariffs for 2002-03 is based and a statement of reasons for granting the approval. Clause 63(d) of the Code requires regulatory accountability through transparency and public disclosure of regulatory processes and the basis of regulatory decisions.

1.9 The Commission is required under clause 78(3) of the Code to approve "reference" tariffs and charges. These are the tariffs which a network provider cannot exceed when charging for a standard service (clause 73).

1.10 The Code requires that, prior to approval of any network tariffs, the Commission must have approved a "pricing principles statement" prepared by the network provider (PAWA Networks).

1.11 On 25 August 2000, the Commission approved the Pricing Principles Statement, submitted by PAWA Networks on 11 August 2000, to apply in the first regulatory control period.

1.12 As a result, the approved Pricing Principles Statement forms a basis upon which the Commission has assessed the network tariffs proposed by PAWA Networks for the 2002-03 financial year. The Commission will approve the network tariff schedules submitted by PAWA Networks unless the proposed tariffs and charges – either in whole or in part – do not comply with the approved statement of principles, being an elaboration on the principles laid down in Chapter 7 of the Code.

1.13 A copy of PAWA's approved Pricing Principles Statement can be found on the Commission's website (www.utilicom.nt.gov.au).

1.14 Against this background, chapter 3 of this Report deals only with:

- changes due to fine-tuning of the methodology previously approved;
- the tariffs applying during the 2002-03 financial year; and
- the Commission's approval of individual tariffs and charges.

Other tariff issues

1.15 As the regime has developed since its commencement on 1 April 2000, the Commission has worked closely with electricity market participants to clarify issues as they arise and to develop guidelines, where the Commission has deemed appropriate, to provide interpretation of, and support to, the legislative framework.

1.16 Chapters 4 and 5 of this Report canvass two such issues, namely the scope for discounting of standard tariffs and the tariffs relating to new or non-standard services such as embedded generation.

Final year of regulatory control period

1.17 The revenue caps and network tariffs outlined in this Report are the final set to be determined and approved by the Commission in the first regulatory control period.

1.18 Chapter 6 looks forward to the second regulatory control period and foreshadows issues to be discussed when regulatory arrangements to apply to the next regulatory control period are being decided.

CHAPTER

2

NETWORK REVENUE CAPS 2002-03

Introduction

2.1 The revenue caps applying to PAWA's regulated networks with respect to the 2002-03 financial year were determined by the Commission on 17 April 2002 (gazetted 24 April 2002).

Methodology

2.2 In determining the revenue caps to apply to PAWA's networks in 2002-03, the Commission has used the same contingent factors previously determined and which are set out in the Commission's June 2000 Report and May 2001 Report.

2.3 In line with its determination of the 2001-02 revenue caps, the Commission has used a single cost driver (namely the quantity of energy transported over the network and revenues per additional unit equal to average per kWh revenues) to escalate allowable revenue for 2002-03.

2.4 The following formula has been applied:

$$\text{CAP} = [\text{MAR}_0 + b_0 * B_1] * [1 + (\text{CPI}_1 - X)] + K_1 \quad \dots(1)$$

where:

MAR_0 is the maximum allowable revenue ("revenue cap") (in \$) established by the Commission for the preceding financial year (ie 2001-02);

b_0 is average price of transporting electricity (in cents per kWh) in the 2001-02 year, calculated by dividing MAR_0 by the total amount of electricity forecast to be transported in that year;

B_1 is the total amount of *additional* electricity (in kWh) which it is forecast (on a trend basis) will be transported by the network provider over the network during the 2002-03 financial year compared with the amount transported in the previous year;

CPI_1 is the forecast annual percentage change in the consumer price index in 2002-03;

X is the adjustment factor (as a percentage) determined by the Commission at the beginning of the first regulatory control period in accordance with Schedule 10 to the Code; and

K_1 is a correction factor for 2002-03 to offset differences between the forecast parameter values used to calculate the previous year's revenue cap and their actual values.

2.5 For the purpose of establishing tariffs and charges for the use of the 'Northern Grid' (that is, the inter-connected Darwin and Katherine distribution networks), the Commission has treated the Darwin and Katherine networks on a combined basis.

Base MAR

2.6 The revenue caps for the 2001-02 financial year were determined in May 2001 as follows:

Location	CAP 2001-02 (\$M)
Northern Grid	\$53.790
Alice Springs	\$9.713
Tennant Creek	\$3.028

Quantity of energy transported

2.7 As detailed in the June 2000 Report, estimates of the amount of electricity expected to be transported (being the equivalent of energy sales) are only adjusted for the purpose of calculating b_0 and B_1 in equation (1) on account of underlying and on-going variations in trend, and seasonal variations are not taken into consideration.

2.8 No representation has been made by PAWA for any adjustment to previously estimated energy growth rates.

2.9 On this basis, the Commission has used the same values for energy sales for each region for 2002-03 as was set out in the June 2000 Report. That is, the 2000-01 financial year projected energy sales have been used as a base and a growth factor applied of 2.5% for Darwin and Katherine, 0.5% for Alice Springs and zero for Tennant Creek.

Expected inflation

2.10 The Commission has used a projected CPI increase of 3.0% for the 2002-03 financial year, taken from the Access Economics Five-Year Business Outlook (March 2002).

'X' factors

2.11 No representation has been made by PAWA for any adjustment to previously determined 'X' factors.

2.12 The 'X' factors for the 2002-03 financial year were determined in June 2000 as follows:

Location	'X'
Darwin	4.30%
Katherine	3.50%
Alice Springs	-0.70%
Tennant Creek	1.80%

2.13 Following on from its practice in 2001-02, and as foreshadowed in the June 2000 Report, the Commission invited PAWA to make a submission for adjustment of the above figures if PAWA considered that there was evidence of a substantial difference between forecast and actual capital expenditure for 2001-02, or between previous and current forecasts of capital expenditure for 2002-03. No submission was received, and the Commission received verbal advice that PAWA wished the revenue caps previously determined for the 2001-02 financial year to be used as the base on which to calculate the 2002-03 revenue caps subject, however, to an adjustment related to corporate overheads.

Correction factor [K₁]

2.14 Prior to its purchase by PAWA and its prescription as a regulated network, the Commission excluded DKTL costs associated with the Darwin-Katherine Transmission Line (“DKTL”) from the revenue caps. However, the Commission approved a regulated DKTL surcharge to be imposed by PAWA Networks. The DKTL surcharge was based on an estimate of the DKTL cost.

2.15 PAWA’s initial submission estimated the DKTL cost in 2000-01 at \$6.087M, which included corporate overhead costs of \$800,000. The Commission disallowed the inclusion of the corporate overheads amount at that time, as PAWA was unable to satisfactorily demonstrate in the time available that it would not involve some double-counting.

2.16 Following submission of further data from PAWA, the Commission later accepted that no double-counting would occur. The Commission was not, however, convinced that these costs should be recouped as a direct component of the DKTL charge, but was of the view that any overheads component should be recovered from users of the distribution network. The Commission advised PAWA that the matter would be considered in conjunction with the review of overs and unders for 2000-01 as it would allow consideration of other ‘errors’ and serve the price stability objective.

2.17 Following further examination of the matter at the time of the overs and unders review, the Commission has decided that revenue caps should not be adjusted for this amount for the following reasons:

- Revenue cap calculations are based on estimates of future costs, and actual figures provided in the Regulatory Accounts for 2000-01 indicate that there may be offsetting differences in other components of the building blocks.
- Based on the Commission’s assessment at the time of the original determination and a subsequent review of PAWA’s cost allocations, it is not evident that a higher estimate of O&M costs would have been accepted by the Commission as an efficient level of costs for calculating the revenue cap.
- While the Code allows for the resetting of a revenue cap if there was a “material error” in setting that cap, the net impact of a revision to regulatory revenue for the regulatory control period would be slightly over 1% pa (equating to an effect on return on assets – based on PAWA’s total capital employed as shown in the Regulatory Accounts for 2000-01 – of 0.28%). In light of the other factors set out above, the Commission is not convinced that this constitutes a ‘material error’.

Darwin to Katherine Transmission Line

2.18 In its May 2001 Report, the Commission made a provisional determination of the revenue to be recovered on account of the DKTL for both the 2001-02 and 2002-03 financial years. As the DKTL was not prescribed as an electricity network subject to regulation under the Code until after the commencement of the 2001-02 financial year, and the Code is not precise about how soon a revenue cap must be determined for a prescribed network once the Code applies to that network, the Commission did not formally determine a revenue cap (or reset the existing revenue caps) applying to the 2001-02 financial year to incorporate recovery of DKTL-related costs.

2.19 Instead, the Commission approved the continued use by PAWA of the existing postage stamp charge of 0.474 c/kWh (excluding GST) until 30 June 2002 and advised that the DKTL would be included in PAWA’s revenue caps from 1 July 2002.

2.20 Following prescription of the DKTL as a regulated network, the Commission has made no change to its provisional determination as set out in the May 2001 Report, and has now ratified its provisional determination of the increase in the revenue cap on

account of the DKTL by including the amount set out below in the Revenue Cap Determinations for 2002-03.

Summary of DKTL calculation

2.21 In the Commission's report titled "Regulatory Treatment of the DKTL" ("DKTL Position Paper"), issued in April 2001, the Commission recognised that the actual purchase price paid by PAWA for the DKTL included additional 'settlement benefits' that should not be recovered from network users. The Commission also acknowledged the intangible nature of many of these settlement benefits, and conceded that these would be difficult to quantify.

2.22 On this basis, the Commission indicated that it would accept the outcome of an independent valuation directly costing the DKTL assets, provided:

- it was undertaken in accordance with generally accepted valuation principles for regulatory purposes; and
- the resultant value assigned to the settlement benefits appears to be reasonable from the Commission's perspective.

2.23 PAWA engaged Sinclair Knight Merz (SKM) in conjunction with KPMG to independently value the DKTL. Based on this valuation, PAWA calculated depreciation on an individual life basis, determining annual depreciation and resulting depreciated values and depreciated optimised values as at various dates – 31 January 2001, being the valuation reference date, 10 November 2000, being the date of the settlement for purchase of the DKTL, and 30 June 2001. KPMG examined and commented on the depreciation methodology, finding it satisfactory for the purpose.

2.24 In rolling forward the asset base to provide the estimated depreciated value of the DKTL assets at the beginning of each of the financial years 2001-02 and 2002-03, PAWA applied the same methodology and the same figure for Δ CPI (2.5%) as was used by the Commission in the June 2000 Report. No capital expenditure or retirement of assets was included for the current period. On this basis, the Commission has accepted the figures provided by PAWA for the regulated asset base and depreciation, these being \$38.714 million and \$1.182 million respectively for 2002-03.

2.25 To ensure consistency within the regulatory control period, the WACC of 7.94% determined for PAWA's distribution networks and published in the June 2000 Report was used.

2.26 A figure of \$1.363 million was accepted by the Commission for the expected increment to the operations, maintenance and administration expenditure for the period by the network business on account of the DKTL. This figure excluded any allowance for corporate overheads, in line with previous decisions discussed above.

2.27 The increase in the revenue cap for 2002-03 on account of the DKTL has been calculated as follows:

Darwin-Katherine Transmission Line	
<i>\$million</i>	2002-03
Regulated Asset Base	38.714
WACC	7.94%
Return on Capital	3.074
Return of Capital (Depreciation)	1.182
Return of Operating Costs	1.363
Maximum Allowable Revenue (=ΔCAP_{DKTL})	5.619

Determination

2.28 The revenue caps apply to PAWA's regulated networks with respect to the 2002-03 financial year are determined by applying the above data to equation (1) as follows:

REVENUE CAP DETERMINATION¹				
<i>\$million</i>	Darwin	Katherine	Alice Springs	Tennant Creek
Revenue Cap 2001-02	46.840	7.640	10.123	3.064
Projected energy sales 2001-02 (GWh)	942.700	181.036	187.433	39.883
<i>Price per unit² (c/kWh) (b₀)</i>	4.97	4.22	5.40	7.68
<i>Forecast additional energy sales 2002-03³ (GWh) (B₁)</i>	23.568	4.526	0.937	0.000
Projected impact of additional energy sales (b ₀ * B ₁)	1.171	0.191	0.051	0.000
New base MAR	48.011	7.831	10.174	3.064
CPI	3.00%	3.00%	3.00%	3.00%
X	4.30%	3.50%	-0.70%	1.80%
1 + (CPI - X)	98.70%	99.50%	103.70%	101.20%
Maximum Allowable Revenue 2002-03 (exclusive of DKTL)	47.387	7.792	10.550	3.101
	Northern Grid			
	55.179			
Darwin-Katherine Transmission Line ⁴	5.619			
Maximum Allowable Revenue 2002-03 (inclusive of DKTL)	60.798		10.550	3.101

¹ Exclusions are the items shown in the Excluded Services Determination for 1 April to 30 June 2000.

² Calculated by dividing the previous year's (2001-02) revenue cap by the previous year's total energy sales.

³ Based on energy sales growth rates of 2.5% for Darwin and Katherine, 2.0% for Alice Springs, and 0.0% for Tennant Creek.

⁴ Allowable revenue for the Darwin-Katherine Transmission Line is in line with the Commission's provisional determination set out in its report "Revenue Determinations: 2001-02" released in May 2001.

CHAPTER**3****NETWORK REFERENCE TARIFFS 2002-03****Methodology underlying PAWA's proposed network tariffs**

3.1 In the first full financial year of the regulatory control period (2000-01), PAWA submitted both a Pricing Principles Statement and a detailed explanation of the assumptions and methodology underlying their tariff proposal. Both of these documents can be found on the Commission's website (www.utilicom.nt.gov.au).

3.2 PAWA establishes the level of its proposed network tariffs by reference to the revenue caps approved by the Commission, and structures these tariffs by the application of the fully distributed cost (FDC) principles and methodology summarised in the approved Pricing Principles Statement.

3.3 Broadly, the methodology provides a high level allocation of costs to high and low voltage cost pools which provide the basis for the derivation of the proposed charges. The targeted revenue to be recovered is apportioned:

- between the two customer groups – contestable within the regulatory control period (ie using greater than 750 MWh per annum) and non-contestable within the regulatory control period (ie using less than 750 MWh per annum); and
- within the contestable customer group (ie using greater than 750 MWh per annum), between standing charges, demand charges and energy charges; and
- within the non-contestable customer group (ie using less than 750 MWh per annum), between standing charges and energy charges.

3.4 With respect to the derivation of the final network tariff numbers, PAWA advised that:

“The formulation of the proposed tariffs has involved a mixture of calculation and judgement as well as experimentation and extrapolation to find a workable solution to satisfy various criteria.....

.....the demand fraction of the [contestable] tariff was targeted to deliver around 40% of contestable revenue.”

3.5 By including a demand component in the structured tariff applicable to large (over 750 MWh per annum) customers, the tariff was designed to achieve, among other things, signals to customers that demand carries responsibility for system capacity and hence cost, and to provide incentive to customers to manage their demand on the system.

Approved tariffs for 2001-02

3.6 For the second year of the regulatory control period (2001-02), in the absence of any further information at that time, PAWA simply applied the ‘CPI – X’ factor (as applied by the Commission to determine the relevant revenue caps) to the approved 2000-01 tariffs to formulate the tariffs for the 2001-02 financial year.

PAWA's proposed tariff schedules for 2002-03

Adjustment for 2000-01 experience

3.7 On 1 May 2002, PAWA submitted its proposed tariff schedules for the financial year commencing 1 July 2002 to the Commission for approval.

3.8 Unlike the previous financial year, the availability of a comparison of actual revenue recoveries with targeted revenue recoveries for 2000-01 provided additional information to allow PAWA to fine-tune its tariff proposal for the 2002-03 financial year. The Commission's decision with respect to unders and overs is shown at Appendix A.

3.9 As a result, PAWA proposed that the base tariff elements be adjusted as follows:

	CPI - X factor	Adjustment for previous recovery result	Simple adjustment factor
Northern Grid (excluding DKTL charges)	98.81%	-2.20%	96.64%
Alice Springs	103.70%	+2.17%	105.95%
Tennant Creek	101.20%	-6.03%	95.10%

Basis for application of tariffs

3.10 Tariff schedules submitted by PAWA, and approved by the Commission, for previous years have differentiated the application of the simple versus structured tariff on the basis of a customer's contestability status. Non-contestable (or not yet contestable) customers are charged based on the simple tariff, while once a customer becomes contestable, the structured tariff is applied.

3.11 The following legal advice received by the Commission has indicated that this differentiation may not be fully consistent with the objectives of network pricing set out in clause 74 of the Code:

"...it is arguable that charging network tariffs which differ in their composition simply on the basis of the status of the customer as being contestable or non-contestable:

(a) does not involve a common approach for all network users as required by clause 74(b) of the Networks Code; and

(b) is not one of the bases listed in sub-paragraphs (i) to (vi) of clause 74(b) on which actual tariffs for a network service may differ between users."

3.12 Additionally, the Commission understands that the approach taken to network tariffs in the Territory can be contrasted with the approach taken elsewhere. For example, in South Australia the network charges payable to the operator of the distribution network do not differ according to the classification of the customer as contestable or non-contestable.

3.13 In response to a request by the Commission, PAWA has addressed this issue by providing tariff schedules for 2002-03 which differentiate tariffs on the basis of a customer's consumption, while acknowledging that previous PAWA submissions were made on the basis of contestability status:

".....partly as a form of "shorthand" reflecting a level of consumption and partly sought to apply the "more cost reflective" tariff formulation to customer tranches only as they became contestable. It retained the "simple" energy based tariff formulation for customers below the level of contestability at any time. This latter was necessary because of the need for progressive installation of interval metering to customers without this equipment."

3.14 For 2002-03, PAWA proposed that the structured tariff be applicable to all customers with annual consumption above 750 MWh per annum (that is all customers who are currently contestable), while the simple tariff will be applied to all customers using less than 750 MWh per annum, including those customers using between 160 and 750 MWh per annum, who will become contestable on 1 April 2003.

3.15 This is consistent with the objectives of network pricing set out in clause 74 of the Code, which allows network tariffs to differ between users because of, among other things:

“the quantities in which the relevant network access service is to be supplied or is supplied.”

Review on account of extension of contestability timetable

3.16 At the commencement of the current regulatory control period, when the methodology underlying PAWA's network tariffs was first put in place, the contestability program extended only as far as customers with annual energy consumption greater than 750 MWh. At that time, customers with annual consumption below 750 MWh were treated as a group and no extensive analysis was carried out, with the intention being that this would be considered more fully at a later date, after the first regulatory control period.

3.17 With the announcement by the Government of the extension of the contestability timetable to customers consuming 160 MWh per annum becoming contestable on 1 April 2003 (ie within the current regulatory control period), and to full retail contestability on 1 April 2005, the need to look more closely at the tariffs applicable to these customers had to be brought forward.

3.18 As PAWA examined the tariff relativities for various customer groups, PAWA identified that:

“As the electricity consumption threshold for entry to contestability has lowered, it has become apparent that some customers experience tariff increases as they become contestable, and move from the simple energy only tariff onto the structured cost reflective tariff.”

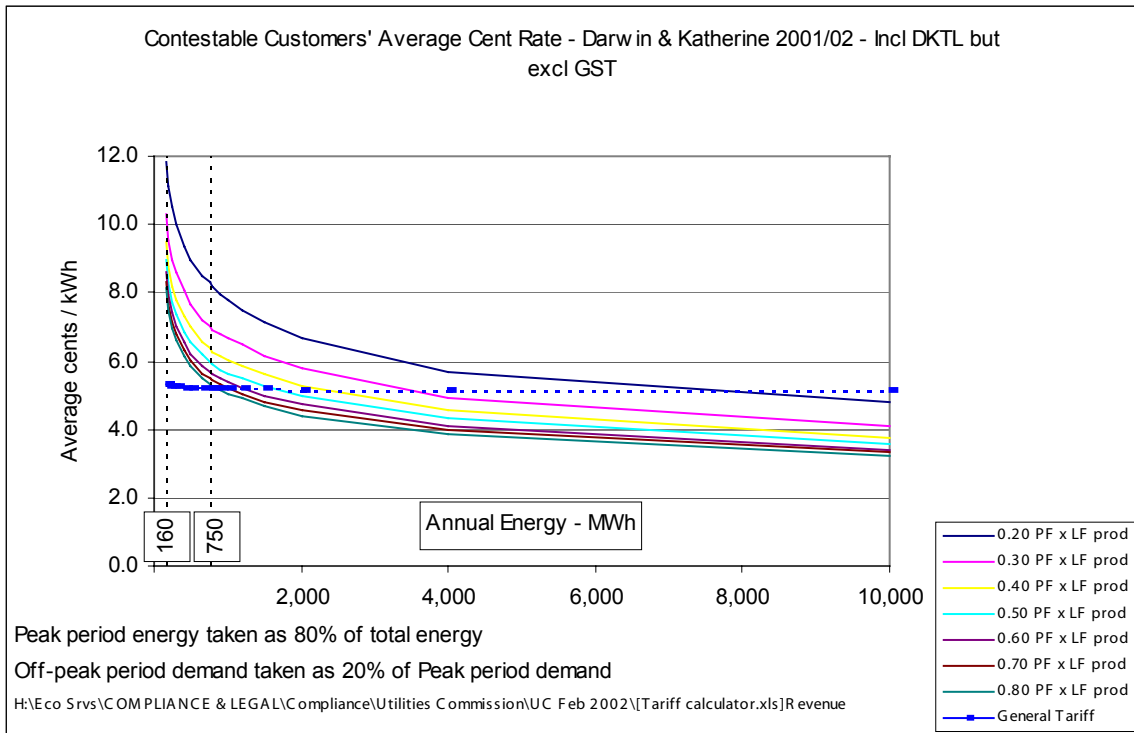
3.19 Further:

“For large customers, with consumption in the early contestable tranches,the structured tariff has resulted in rates lower than would have applied on the simple general tariff. The degree of benefit depends on the profile of use – higher load factor x power factor utilisation results in lower averaged charges on a cents per kWh basis, with a second effect in that higher utilisation implies that the customer takes more of its supply during the lower priced off-peak periods.

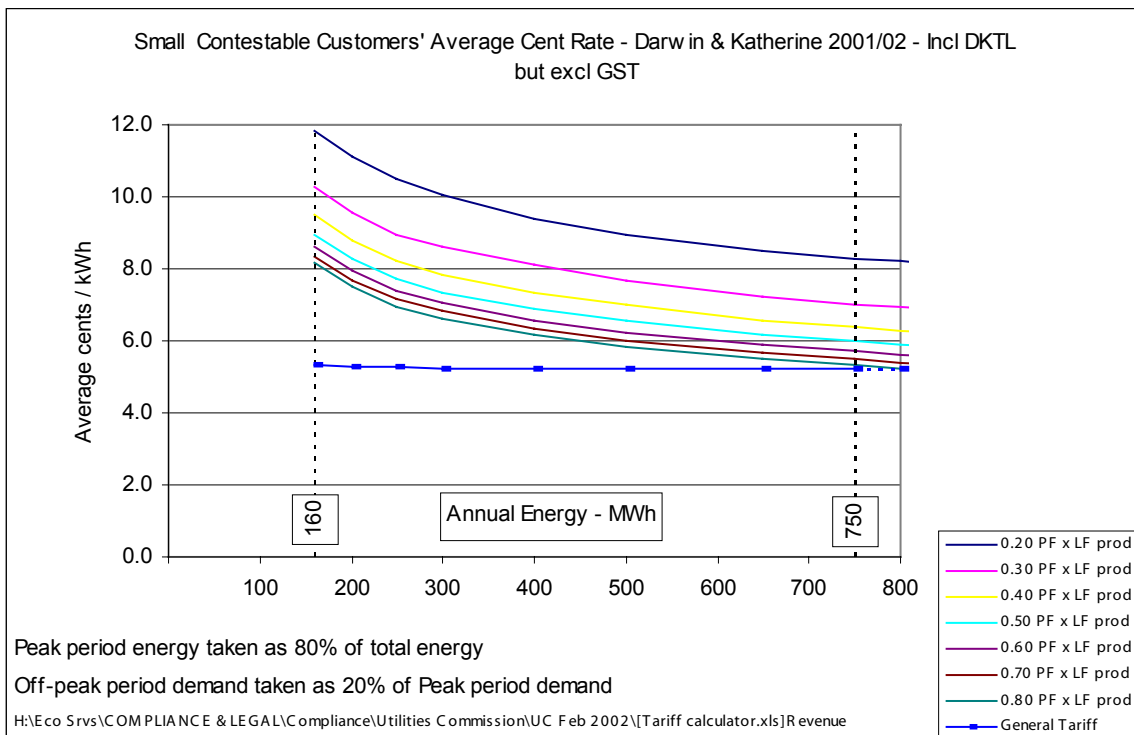
For smaller customers in tranche 4, becoming contestable from April 2002,the benefit of the present structured tariff is likely to be reduced, except where utilisation is very high.

For customers in tranche 5, becoming contestable from April 2003, the structured tariff is clearly higher than the previous general tariffs.”

3.20 The graphs below, provided by PAWA, illustrate the relativities for the Northern Grid.



3.21 This suggests that the original weighting of targeted revenue recovery between



these two groups erred marginally, with customers on the structured tariff in effect cross-subsidising those on the simple tariff. With the extension of the contestability timetable to consumption levels of 160 MWh per annum in April 2003 and the possibility of these customers moving to the structured tariff, this discrepancy became more marked.

3.22 Accordingly, PAWA's tariff proposal for 2002-03 incorporated an increase in the proportion of revenue to be recovered from customers on the simple tariff, with a corresponding reduction in revenue from the customers on the structured tariff, calculated for revenue neutrality.

Change in relativities between demand and energy components in the structured tariff

3.23 In re-weighting the apportionment of targeted revenue recovery between the customers on the simple tariff and customers on the structured tariff, PAWA applied the proposed reduction in the structured tariff solely to the energy component.

3.24 PAWA argued that:

"In the initial evaluation of relativities between the tariff elements for the structured tariffs, the revenue fraction recovered through demand charges was held to be at a low target value. The balance of revenue needs were recovered through energy charges in a "least distorting" fashion so as to reduce the possibility of "over-signalling" marginal demand costs. This applied even though there are few, if any, cost drivers actually related to energy carriage itself. The networks are not "worn out" by its passage, but are sized by its maximum rate of consumption.

With the subsequent application of the DKTL charge to the Northern Grid as an "energy only" postage stamp, the demand fraction was further reduced.

This reduction of the effective energy fraction will go some way to restoring the intended relativities."

Commission's assessment of PAWA's tariff proposal

3.25 The Commission has accepted PAWA's proposal to adjust the original apportionment of targeted revenue recovery between the customers on the simple tariff and customers on the structured tariff, so as to remove, as far as possible, the identified cross-subsidy.

3.26 However, on 12 May 2002, the Commission advised PAWA that, although consideration had been given to the arguments put forward by PAWA in favour of adjusting the demand/energy ratios of the structured tariff, the Commission was not convinced that such adjustment should be made at this point in time.

3.27 The Commission expressed the view that discussion of an appropriate demand/energy mix in the structured tariff should take place in a wider forum, and thus would be best addressed in assessing PAWA's Pricing Principles for the commencement of the next regulatory control period. This would also allow consideration in a broader context, including whether an alternative basis for revenue make-up might be more equitable and acceptable and how network tariffs might be applied in non-standard circumstances such as embedded generation. It would also allow all stakeholders to make their views known.

3.28 Accordingly, PAWA was requested to submit revised tariff schedules with structured tariffs based on demand/energy ratios equal to ratios used in the structured tariff in 2001-02.

3.29 Subsequently, PAWA provided revised tariff schedules to the Commission, with the revised schedules submitted on 21 May 2002.

3.30 On 22 May 2002, the Commission approved network tariff schedules for use by the PAWA from 1 July 2002. The approved reference tariff schedules are shown at Appendix B.

Tariff schedules published by PAWA

3.31 In approving PAWA's network tariffs, the Code requires the Commission to approve "proposed reference tariffs and charges", not the pricing schedule to be published by PAWA. This gives PAWA the discretion to present the approved tariffs and charges in the way that PAWA thinks most appropriate.

3.32 In the first year of the current regulatory control period (2000-01), the tariff schedules approved by Commission included both GST and, for the Northern Grid, the DKTL surcharge (which was, at that that time, a charge approved by the Commission for the purpose of recovering the costs which PAWA paid to the operator of the transmission line).

3.33 For the 2001-02 financial year however, the Commission moved to the view that it was more appropriate that the proposed network tariffs and charges be submitted in a form that excluded the GST, since network charges levied on one retailer – PAWA Retail – were not subject to GST. The DKTL charge was also excluded since, as PAWA was now owner of the line, it was now a non-regulated charge.

3.34 Consistent with this view, the tariffs approved by the Commission for the financial year commencing 1 July 2002 are exclusive of GST, and the charge for use of the DKTL has been approved separately (unbundled) from the Northern Grid's distribution tariffs.

3.35 The pricing schedules published by PAWA may differ from the network tariffs approved by the Commission under clause 78(3) of the Code, in that schedules may be expressed, among other things, in GST-inclusive terms and, as appropriate, also incorporate any unregulated tariffs and charges.

3.36 The Commission sees the form and content of the pricing schedules to be published to be PAWA's responsibility. However, while the Commission does not explicitly approve the "pricing schedules" to be published by PAWA, the network provider must, under clause 78(7) of the Code, incorporate any modifications that the Commission directs before the schedule is published.

CHAPTER**4****DISCOUNTING OF NETWORK TARIFFS****Discounting framework**

4.1 Under the Code, the approved reference tariffs for standard network access services are maximum tariffs rather than actual tariffs (clause 73). This means there may be some instances when a network provider offers lower network tariffs and charges to a customer. The Commission recognises that in some, albeit rare, circumstances discounting may be appropriate and can be beneficial to the market as a whole.

4.2 Given the current size and stage in the development of the Territory's electricity market, not to mention the dominant position of PAWA Networks, the Commission has not previously considered it necessary to formally introduce discounting guidelines. However recent discussions with both PAWA Networks and retailers has indicated that a need for such guidelines now exists.

4.3 In May 2002, the Commission sponsored a round-table of interested parties aimed at reaching an understanding:

- among the retailers;
- between the network service provider and the retailers; and
- between the market participants and the regulator

about how guidelines on network tariff discounting should be implemented in the Northern Territory context. Issues were discussed in principle only, and discussion of particular cases was actively discouraged by the Commission.

4.4 Using the ACCC's recently released report titled "Draft Guidelines for the Negotiation of Discounts on Transmission Charges" (which proposes a number of objectives and guidelines) as a basis for discussion, the Commission sought to reach agreement about practical and competitively-neutral processes to be followed by all parties in cases where network tariff discounts might be sought and the conditions of access to apply to network users benefiting from a negotiated discount.

4.5 The Commission subsequently provided an elaboration of the principles and processes broadly agreed at the round-table, and the final "Framework for Negotiation of Discounted Network Tariffs" ("Discounting Framework") is shown in full at Appendix C.

4.6 In summary, it was agreed that the overall objective of discounting should be so as:

"to maximise benefits to the market as a whole and to recover the costs of discounts in ways that leave no individual worse off."

4.7 Essentially, the over-riding principle of any guidelines should be that network users as a whole are not be worse off as a result of the discount being offered compared to a situation where the discount was not offered.

Definition of standard services

4.8 Integral to the application of the Discounting Framework is an understanding by all parties of the meaning given to the term “standard services”.

4.9 The Commission currently determines revenue caps and approves network tariffs for standard network access services only. Standard network access services are defined under clause 3 of the Code:

“standard network access services” mean the network access services for which reference tariffs are published in respect of a financial year;”

4.10 Reference tariffs are also defined as:

“reference tariff” means the maximum tariff to apply in a particular year with respect to a specific individual standard network access service, as set out in a pricing schedule published by PAWA Networks;”

4.11 Clause 6A of the Code requires that:

“The network provider must develop and maintain a package of information containing all matters of interest to access applicants regarding the arrangements and requirements for access, and supply an up to date information package to potential access applicants at their request.”

4.12 It goes on to specify a number of things that the information package should contain, including

“specification of service standards associated with each standard reference tariff,”

4.13 PAWA Networks is currently unable to provide the Commission with a copy of that part of the package of information on access arrangements and requirements which deals with the specification of services and service standards associated with each standard reference tariff. PAWA Networks has advised the Commission that, while standard network services are not defined in one place and some work will be required to bring the information together, the standard services include that which is necessary to meet the legislated requirements, the Access Code, the Network Connection Technical Code and PAWA’s network licence conditions.

4.14 PAWA Networks has also noted that:

“The proposed rates are ‘reference rates’ which represent a strategy to recover the determined MAR through delivery of ‘standard’ network services. The MAR itself is based, inter alia, on an anticipated standard of capital investment and an associated investment risk such as might be expected by a prudent operator in the industry.

While ‘standard’ network services may not be defined more specifically, in principle this implies at least the following characteristics of a customer’s energy delivery requirements and the associated networks to deliver them:

The network will be designed, constructed, maintained and operated in accordance with good and appropriate industry practice, with suitable capacity, reliability and redundancy, and in accordance with relevant Codes for network design and performance.

The customer will draw all its normal energy requirements through the network and will thus be an importer of energy under normal circumstances.”

4.15 PAWA Networks also provided some examples of what would be considered ‘non-standard’ services.

4.16 The Commission is not convinced that the information provided meets PAWA Networks’ obligations under the Code and has sought further clarification from PAWA. The Commission will be working with PAWA to ensure that the definitions relating to standard network access services are expanded upon and communicated to all

interested parties prior to the commencement of discussions relating to network pricing issues in the second regulatory control period.

CHAPTER**5****NETWORK ACCESS CHARGES FOR EMBEDDED GENERATION****Introduction**

5.1 Over recent months, the Commission's advice has been sought on certain tariff-related matters associated with the negotiation of network access for proposed embedded generation facilities in accordance with clause 13 of the Code which states that:

"An access applicant...may request the regulator to consider and, if appropriate, to give advice or directions with respect to any matter that arises in connection with the operation of the Code in order to facilitate the conduct of negotiations under this Chapter."

5.2 The views of the Commission have additional authority given that, under clauses 41(4) and 73(5) of the Code, the Commission (rather than an arbitrator) is to approve the maximum tariffs to apply to new or non-standard network access services in the case of an access dispute where the dispute relates (wholly or partly) to the tariff to apply to those services.

Background

5.3 Currently, the approved network tariffs in place in the Northern Territory only charge:

- end-use customers or loads (as importers), not the generators (the exporters), for network access and use;
- for actual transportation of energy on the existing system, with connection charges (capital contributions) applying where an extension – or a non-standard access service – is involved; and
- for actual network usage, rather than for the provision of the potential to import energy if the need arises ("standby").

5.4 Moreover, all end-use customers pay for the entire network, with no locational component in the network tariff. End-use customers (or their retailers if the retail tariff is 'bundled') pay in proportion to the customer's monthly energy usage (kWh) and monthly peak demand (kVA).

5.5 These features of the current network tariffs are only due for reconsideration prior to the next regulatory control period (commencing 1 July 2003).

Issues arising in relation to proposed embedded generation or cogeneration facilities

5.6 If a proposed generation facility solely involved a generator exporting power to its contracted customers, then:

- network charges would fall solely on the end-use customers supplied by that generator; and
 - as a new generator, the proposed generation facility would be required to pay for the incremental connection costs associated with the entry assets necessary to provide network access.
- 5.7 If the proposed generation facility were solely an importer of power (load), then:
- current network charges would be sufficient to meet actual transportation costs (involving both a demand component based on monthly peak demand and an energy component); and
 - any dedicated above-standard provision of exit assets necessary to provide network access would be to the load's expense.
- 5.8 However, generation facilities involving embedded generation may not be the usual (standard) generator or load:
- as a new generator, connection to the network is required for more than export and emergency start-up purposes; and
 - as a network user (importer), there would be periods within which connection to the network is necessary even though power is not actually being transported.
- 5.9 At issue is:
- the connection charges that should apply on account of the entry assets needed for generation (export) purposes;
 - the capital contributions that should apply on account of the exit assets needed for load support (import) purposes; and
 - with respect to load (import), the quantum of any network usage tariff.

Commission's approach

5.10 In the absence of generation-related network tariffs in the current approved tariff schedule, and in view of embedded generation and cogeneration proposals in the wind, in March 2002 the Commission approved a framework put forward by PAWA Networks as a basis for negotiating access charges relating to new and non-standard services ("Negotiating Framework"). In essence, the approved Negotiating Framework recognises that PAWA Networks is entitled to recover a share of the approved annual network revenue cap from non-standard site-specific network service situations that is efficient and equitable and which reflects the usage of and benefit from the network.

5.11 The Code only provides for the Commission to 'approve' (rather than 'determine') network tariffs and charges – irrespective of whether reference tariffs or tariffs applying to new or non-standard services are involved.

5.12 For this reason, the Commission's approach is to respond to proposals made by PAWA Networks as the network provider. Unless the network provider's proposals can be shown to be in conflict with the Code's pricing objectives, the Commission is obliged to approve the tariffs and charges proposed by the network provider. Where, in the Commission's opinion, any proposed tariffs and charges are in conflict with the Code's pricing objectives, the Commission's approach is to identify the modifications required to the proposed tariffs and charges if they are to avoid any conflict with the Code's pricing objectives. In this way, the Commission's approval approach is a reactive one.

Evolution of network tariffs and charges

5.13 There are two forms of network tariffs and charges: those included in the schedule of approved tariffs (“reference tariffs”) and those that are instead negotiated between the network provider and an access seeker for new or non-standard network access services (“negotiated tariffs”).

5.14 *Reference tariffs* – their level, structure and even composition – are not fixed in the long term. Under the Code:

- PAWA Networks’ Pricing Principles Statement is approved by the Commission at the commencement of each regulatory control period; and
- network tariff schedules implementing these principles are approved annually by the Commission.

5.15 Reference tariffs, and tariff structures, can be expected to evolve over time under these arrangements. Access agreements cannot fix or presuppose reference tariffs. That said, such tariffs will not fluctuate significantly from year to year (given the price stability and consistency elements of the Code’s pricing objectives). Network users can make investment decisions in the knowledge that reference tariffs will evolve slowly (and predictably) over time.

5.16 *Negotiated tariffs* relate to new and non-standard services, and so relate to services that are separate from the network access services covered by reference tariffs. The revenue collected from negotiated tariffs may or may not be counted toward the network provider’s annual revenue cap depending upon whether the associated assets and related costs form part of the Commission’s revenue cap calculations.

5.17 The onus is on the network provider to ensure that reference tariffs, and the approved tariff structure, are comprehensive. Any omissions from the reference tariff schedule cannot be retrospectively applied or corrected.

5.18 It is possible that, for the next regulatory control period, the network provider may seek to include a ‘standby charge’ tariff separate from a network use of system (NUOS) charge and/or use of system charges that apply specifically to generators distinct from those applying to load users. If so, the Commission would consider the issues in the context of the review of network pricing principles that is to take place prior to the next regulatory control period (in early 2003). The issues would be subject to the consultation processes set out in the Code. Interested parties would have their say at that time, and the Commission would not settle on a view until after considering all the issues raised in this consultation process.

5.19 Any new or additional reference tariffs approved as a result of such a process would only apply to access agreements entered into after the date of the incorporation of these tariffs into the approved schedule of reference tariffs (“incorporation date”). The network provider would continue to recover charges based upon any related negotiated tariffs in access agreements commencing prior to the incorporation date for as long as those access agreements remain in effect and do not provide for renegotiation of the amount of such charges.

Guiding principles

5.20 The Commission is guided by the relevant clauses (clauses 74 and 75) of the Code. In particular, clause 74 requires network tariffs to:

- be cost reflective in principle;
- facilitate competition in the Territory’s electricity supply industry;

- provide equitable user prices, and involve a common approach for all network users;
- provide clear pricing signals to network users;
- ensure that appropriate investment in the network takes place in the longer term;
- promote price stability; and
- be administratively simple to apply.

Cost reflectivity

5.21 Tariffs need to be cost reflective to encourage efficient use of existing networks, while signalling future costs for new users or increased loads. Tariffs should also encourage appropriate investment decisions by end-use customers, generators and other providers of network services by signalling future network investment costs.

Competitive neutrality

5.22 Facilitation of competition is the central objective of access regimes. To achieve this, prices and access conditions should not unnecessarily advantage or disadvantage any generator or retailer competing in the upstream or downstream markets.

5.23 Equally, prices and access conditions should not distort competition between different types of generation. Traditional forms of generation and alternative forms such as embedded generation should compete with one another on their own merits, not by one or other being advantaged because of the network charges applying at the time. Where embedded generation results in energy costs that are less than energy sourced from conventional generators, then it should not be discouraged. Investment in embedded generation should not rely on avoiding network charges alone.

5.24 Finally, prices and access conditions should not encourage network bypass. Electricity networks have evolved to obtain system economies on behalf of all end-use customers, notably by reducing generation reserve capacity as a result of the inter-connection of generators. Network tariffs should be structured so as to encourage maximum use of the network (to maximise system economies). Were subsidised charges to result in a proliferation of embedded generators, the economies associated with a power 'system' could be jeopardised. That said, there is an appropriate role to be played by embedded generation in putting some competitive pressure *at the margin* on the network provider.

Promoting price stability and consistency

5.25 Price stability is an important criterion for pricing, as excessive price shocks can be inequitable and involve significant adjustment costs. Large changes in prices can be particularly inequitable as users may have made substantial long-term commitments based on past prices and the expectations they have engendered.

5.26 Network tariffs should be consistent over time and changes in tariffs should be predictable. Consistency relates to both past approaches to pricing and future prices. Users and market participants take long-term decisions – often involving significant capital costs – on the basis of the price structures they face. Significant or unpredictable changes to network charges can impose large costs on end-use customers.

5.27 The Commission gives effect to the price stability and consistency objectives mainly by keeping the tariff structure constant within a regulatory control period, reserving significant resets for consideration prior to commencement of the next regulatory control period. Were PAWA Networks to propose that, in future, generators be charged directly to recover the costs associated with their connection assets and an

equitable portion of shared network assets, the Commission would not allow this to be considered until just prior to the next regulatory control period. While such a proposition may better reflect the existence or location of generators and embedded generators, the price stability and consistency objectives mean that:

- structures should stay largely unchanged within a regulatory control period; and
- between one regulatory control period and the next, side constraints on the year-to-year variation of individual tariffs are likely to be employed (side constraints aim to promote price stability and to increase the certainty and consistency of regulatory outcomes. By preventing price shocks for end-use customers, side constraints limit the amount of re-balancing that can occur in any one year in the pursuit of more efficient (or more equitable) prices).

Common approach to network users

5.28 Clause 74(b) of the Code requires that network tariffs and charges be equitable, and involve a common approach for all network users.

5.29 An important test of a particular implementation of the Code's pricing objectives is whether the proposal can be applied consistently in a range of similar situations.

5.30 In particular, when settling on a tariff level or structure, and other things being equal:

- *one* source of an unexpected decrease in energy usage (introduction of embedded generation) should be treated no differently than *another* source (an unexpected decrease in actual energy usage by a 100% connected load); and
- the situation where other network users may be hit by a (slight) increase in network tariffs on account of an unexpected *decrease* in energy usage should be treated symmetrically with the opposite situation where other network users benefit from any unexpected *increases* in energy usage.

The capital contribution required of a new generator for the necessary connection (entry) assets

5.31 As generators contribute to the reliability and stability of the system in many ways (and new generation is to be encouraged on its merits), new generation facilities should only be expected to contribute the shallow incremental costs of connection to the network. This will also avoid double-counting (or the need to reduce the portion of the network revenue cap to be recovered from non-generation network users).

5.32 The recovery of shallow incremental costs should be broadly equivalent to new generation facilities contributing the deep incremental costs of connection less the net present value of any benefit derived by PAWA Networks on account of the existence and location of the new generation plant to the system. Restricting the generation connection capital contribution to shallow – rather than deep – incremental costs in most cases would be compensation enough for any network system benefits resulting from the existence or location of the new generation.

5.33 Any 'use of system' network charges imposed on an embedded generator should be equivalent to those borne by existing generators.

The capital contribution required of a new generator for the necessary connection (exit) assets

5.34 When power generated by the embedded generation units is insufficient to fully service a load, the capital contribution amount should:

- take into account the already existing assets (which are part of the existing system) and the enhancements already planned as part of the capital expenditure already factored into the network revenue cap – and only charge for any new and unexpected asset acquisition necessary on PAWA Networks' part;
- take into account the cost of entry assets met as part of the generator connection capital contribution; and
- be based on the actual purchases of the new assets involved, and the related additional operating costs.

The network usage charges payable on any power imports

5.35 The Code's pricing objectives (and regulatory economics) require the resultant network charge to be:

- capped at the 'bypass price', that is the cost at which the load could install sufficient reliable generation capacity to allow disconnection from the network; and
- not less than the incremental cost to the system as measured by the difference between the costs of constructing and operating the system as a whole 'with' and 'without' the load in question.

5.36 In addition, the Commission acknowledges that any network usage charge applying to an embedded generator should reflect only the costs of the network upstream of the embedded generator so that loads supplied at high voltage should not have to bear costs related to the low-voltage system.

5.37 The Commission is not aware of any disagreement on PAWA Networks' part to these underlying requirements. Rather, the matters in contention are:

- whether the 'standby' service required by load supplied by an embedded generator is inherently different to a 'use of system' service, and so warrants a different tariff (and tariff structure); and
- on the basis that there are no inherent differences between these types of services, how the existing network tariff structure needs to be modified as a basis for charging a load supplied by an embedded generator for network access and usage.

Standby services versus use of system services

5.38 The Commission does not view standby services as being inherently different than the standard network access and usage services. The charge for network access and usage should reflect the fact that connection to the network is required 100% of the time (irrespective of whether importing is actually taking place or not), with the only alternative being cessation of connection.

5.39 There is no merit in the view that, for standby purposes, a load user (importer) should only be charged in proportion to the expected non-availability of the new embedded generation plant. Network access and usage charges should apply for the time network services are required, not when supply is actually taken through the network. Moreover, if the capacity to import is required on an immediate and

continuing basis, then network access is required 100% of the time and charges should apply 100% of the time.

5.40 A standby tariff would not be necessary were the 'use of system' reference tariff sufficiently generalised. The main problem at the moment is that the approved 'use of system' reference tariff has been formulated on the assumption that all loads are supplied from conventional generation sources.

Modifications necessary to the existing tariff formula

5.41 As network access and usage services for loads supplied by an embedded generator are not inherently different than the network access and usage services for load supplied by conventional forms of generation ("conventional loads"), at issue is precisely how the approved network tariff structure needs to be modified to form the basis for calculating the network charge to apply to a load supplied by embedded generation.

5.42 The approved network tariff involves three components:

- a 'supply availability' component, being a fixed charge covering billing and other customer-related costs;
- a 'demand' component, based upon monthly peak demand (kVA); and
- an 'energy' component, based on the customer's monthly energy usage (kWh).

5.43 The *supply availability component* applies equally to conventional loads and to loads supplied by embedded generators.

5.44 The *demand component* of the approved reference tariff is based upon the network capacity required to service an end-use customer's load. For loads with similar demand characteristics, the network capacity requirements are the same irrespective of the extent of actual energy transportation.

5.45 The present formulation of the demand component of the approved reference tariff presupposes that all loads are conventional loads, such that the monthly peak demand provides a useful proxy for the relative network capacity required by various loads. However, for a load supplied by an embedded generator, some monthly peaks will be zero when no importing occurs. To better reflect the marginal cost of network capacity attributable to loads – irrespective of whether they are importing energy or not – the Commission's view is that, for loads supplied by embedded generation, the actual monthly peak data in the current formula should be replaced with actual annual peak demand expressed on an equivalent monthly basis.

5.46 More contentious is the interpretation of the *energy component* of the approved reference tariffs. At issue is: what role does the energy component play in the approved network tariff:

- is it largely a surrogate for demand?; or
- is it instead a 'revenue make-up' component (explained below)?

5.47 PAWA Networks' view of the current tariff structure is as follows:

"The standard reference tariffs include a fixed, demand and energy component and are cost reflective for 'normal' load usage where the energy component is largely a surrogate for demand." [emphasis added]

5.48 Essentially, PAWA Networks' view is that (the 'supply availability' component aside) 100% of network costs should be recovered in proportion to demand, some directly through the demand component of the tariff and the remainder indirectly by basing the energy component on a 'normal' load usage assumption. PAWA Networks' perspective is that if network costs were strictly translated into 'cost reflective network tariffs', the resulting tariffs would have relatively larger fixed and demand components.

There would be no energy-related charges as network costs do not vary according to the actual amounts of energy transported.

5.49 The Commission does not consider this proxy-for-demand interpretation of the energy component of the reference tariff to be consistent with the Code's pricing objectives. The reason for this view derives from the Commission's interpretation of the demand component of the approved reference tariff as a proxy for the long-run marginal cost of network infrastructure. Recovering all demand-related (sunk) costs through average demand charges would result in a demand rate which exceeds the marginal cost of capacity. The demand element should only recover the (long-run) marginal cost of network infrastructure, currently taken to be some 30% of total revenues.

5.50 Pricing at marginal cost is efficient because it allows an end-use customer to purchase services where the value to the customer is greater than the marginal cost of production, while producers receive a return equivalent to the cost of providing the additional service. However, given the role of fixed (and sunk) costs in network provision, long-run marginal costs are lower than average costs, leading to a revenue deficiency for the service provider if prices relate solely to marginal costs. A revenue make-up component is included to make up the shortfall.

5.51 Hence, the Commission interprets the role of the energy component of the approved reference tariff to be to avoid the revenue shortfall that would arise were network pricing based solely on long-run marginal costs.

5.52 The energy component of the reference tariff is aimed at addressing the revenue shortfall problem associated with decreasing average costs and natural monopolies. The component is essentially a residual to achieve the independently-determined revenue cap. In order to be a non-distortionary method of raising the required revenue to meet the remainder of long-run average costs not covered by the demand component, the energy component must be *independent* of demand (i.e. capacity).

5.53 While network costs do not vary with the amount of energy transported, end-use customers are likely to regard energy imports to be an equitable basis upon which to recover any revenue shortfall from network users. Across jurisdictions, end-use customers better understand (and accept) *actual* energy imports rather than *potential* energy imports as a basis for the revenue make-up component of network tariffs.

5.54 Based upon the above analysis, the Commission would approve a network usage tariff to apply to load predominantly (but not solely) supplied by embedded generation that involved the energy component being based on actual (rather than potential) energy transportation.

5.55 The Commission acknowledges that PAWA Networks has expressed concern about using actual rather than potential energy imports as a basis for setting charges for a load predominantly (but not solely) supplied by embedded generation on the grounds that it would result in, other things being equal, a subsequent increase in other users' network charges. PAWA Networks would prefer an approach that would not see other network users worse off, effectively over-riding the efficiency basis of the network tariff for equity-related reasons.

5.56 Changes in the load characteristics of individual network users is constantly occurring, and over time impact upon the network charges paid by other users. In the Commission's view, care needs to be exercised before isolating one source of change for particular (special) treatment. Where there is scope – and cause – to exercise judgment in order to override efficiency considerations, not only should the impact upon other network users be considered, also important would be:

- allowing competition with the network at the margin while discouraging excessive network bypass;
- ensuring that generation options compete on their own merits; and

- facilitating competition upstream and downstream from the network.

5.57 Finally, the Commission acknowledges that, over time, the current assumption that PAWA Networks' long-run marginal costs are around 30% of average costs may be subject to further consideration, with there being scope for this percentage to increase. [This 30% assumption is reflected in the weight given to the demand component in the current reference tariffs.] This may see a greater weight assigned to the demand component of the existing charge and a lesser weight to the energy component. However, the Commission does not wish to pre-judge this issue at this stage. It is a matter for careful consideration prior to the next regulatory control period.

5.58 That said, the Commission recognises that in time consideration may need to be given to both:

- whether the current 30% weight for the demand component is sufficient as a basis for indicating the long-run marginal costs of network infrastructure; and
- whether an alternative basis for revenue make-up might be more equitable and acceptable.

5.59 Any resultant changes in the network tariffs may need to be subject to side-constraints in order to minimise price shocks for individual customers.

CHAPTER**6****ISSUES FOR CONSIDERATION LEADING UP TO THE NEXT REGULATORY CONTROL PERIOD****Introduction**

6.1 The Code specifies that the first regulatory control period “is that period between the commencement of the Code and 30 June 2003” and that the second regulatory control period “is expected to be the period between 1 July 2003 and 30 June 2008”.

6.2 The Commission is not currently aware of any intention by government to amend the dates of the second regulatory control period, and anticipates that dates for the second regulatory control period will be confirmed as part of the review of the Code that must be undertaken by the Minister before 30 June 2003 (clause 8(2) of the Code).

6.3 It is pertinent at this time, as the first regulatory control period draws to a close, to consider some issues that may impact on the second regulatory control period. At the same time however, the Commission acknowledges that the review of the Code may result in some changes to the regime. The discussion in this Chapter is based on the Code as it currently stands. It is not intended to pre-empt the review, or to canvass or promote any specific areas of change.

Revenue cap issues***Methodology***

6.4 While the Code specifically addresses the methodology to be adopted by the Commission when setting the network revenue cap for monopoly network providers during the first regulatory control period, in the second and subsequent regulatory control periods, the Commission is provided with some discretion when considering the methodology to be adopted to regulate network service providers.

6.5 Clause 1(A) of Schedule 6 of the Code states that:

“The methodology for determining revenue caps in subsequent regulatory control periods is to be determined by the regulator, taking into account measurement and definitional conventions generally accepted at the time.”

6.6 Before the commencement of the second regulatory control period, the Commission will review inter-jurisdictional industry practice and consult with market participants and other interested parties regarding applicability of the various methodologies of network regulation in the Northern Territory context.

6.7 Options that may be canvassed include:

- repeating the building block and ‘X’ factor methodology of the first regulatory control period;
- ‘rolling forward’ the final revenue cap of the first regulatory control period; and
- adopting some other form of ‘incentive’ regulation.

Benchmarking

6.8 The Code requires that one of the factors that the Commission must take into account in setting a revenue cap is:

“the right of the network provider to recover reasonable costs incurred by the network provider in connection with the operation and maintenance of the network.” (clause 68(f))

6.9 However, in evaluating ‘reasonable costs’, the Commission must also have regard to:

“...the potential for efficiency gains to be realised by the network provider in expected operating, maintenance and capital costs...” (clause 68(c)); and

“...(the degree of) efficient operating and maintenance practices on the part of the network provider...” (clause 69(2)).

6.10 Moreover, para.7(3) of Schedule 6 states that:

“...the operating expenditure to be included in the calculation of a revenue cap is to be based on costs facing an efficient operation in Territory circumstances.”

6.11 By limiting recovery to ‘efficient’ costs, the Commission seeks to ensure that end-use customers are not paying unnecessarily inflated prices to subsidise inefficient operations by the network provider.

6.12 At the same time, care must be taken to ensure that incentives are available for the network provider to undertake the activities that create efficiencies so that, in the long term, these efficiencies can be passed on to customers in the form of lower prices and/or higher quality service standards.

6.13 The Commission has previously noted that there have been some deficiencies in the documentation supporting the operations and maintenance costs that PAWA has sought to recover in the current regulatory control period. In the lead-up to the next regulatory control period, the Commission intends to initiate a benchmarking study of PAWA Networks’ operations and maintenance costs, to obtain a clear view as to PAWA’s current standing in respect of industry best practice.

Standard services

6.14 As discussed in Chapter 4, it is important that all market participants (and potential market participants) have a clear understanding as to what constitutes the standard network services for which prices are regulated under the Code.

6.15 An important issue for consideration leading up to the next regulatory control period is to ensure that the definitions relating to standard network services are expanded upon and communicated to all interested parties prior to the commencement of discussions relating to network pricing issues in the second regulatory control period.

Excluded services

6.16 In March 2000, as provided for under clause 72 of the Code, the Commission made a determination of those network services for which the associated costs and revenues would be excluded from the revenue cap.

6.17 These network services were:

- (a) services (including metering, electric lines or electric plant) for the specific benefit of any third party (and requested by the third party) and not made available by PAWA Networks as a normal part of standard services to all customers including –

- charges for moving mains, services or meters forming part of PAWA's network system to accommodate extension, re-design or re-development of any premises;
 - the provision of electric plant for the specific purpose of enabling the provision of standby supplies or sales of electricity; and
 - provision of metering, or metering data, to a standard in excess of that required for billing purposes;
- (b) the provision of connection equipment to a standard in excess of a standard associated with the "least overall cost, technically acceptable" assets;
- (c) power system (but not network system) control costs directly associated with the activities of a system controller licenced under the *Electricity Reform Act 2000*;
- (d) the provision of streetlighting; and
- (e) contestable engineering consulting services provided by PAWA Networks.

6.18 As part of its consultation with market participants and other interested parties, the Commission will also review the list of excluded services.

Unders and overs

6.19 In the June 2000 Report, the Commission stated its intention to adopt an 'Under's and Over's Account', similar to that used by the NSW regulator, IPART, to deal with differences between the actual revenue collected and the nominated maximum amount (the determined revenue cap).

6.20 The tolerances that were initially set for the 2000-01 financial year were slightly higher than those allowed by other regulators at that time, reflecting the newness of the regulatory regime in the Territory. The Commission also conveyed its intention to adjust these tolerance levels down over time, to bring them in line with those applying in other jurisdictions.

6.21 However, in reviewing PAWA's actual revenue recovery for 2001-02, the Commission directed PAWA to provide a rebate to the retailers concerned, on a fair and reasonable basis, to reduce the Northern Grid's under's and over's account balance to zero, despite the over-recovery being within the 4% lower limit of the original MAR. The Commission issued this directive on the basis that there are no strong grounds for believing an offsetting under-recovery is likely in 2001-02, given market circumstances.

6.22 Refinement of the 'Unders and Overs Account' is an issue that needs to be addressed in the next regulatory control period.

Network tariffs

6.23 The emergence of issues such as embedded generation (discussed in the previous chapter) has indicated a need for careful consideration of PAWA's network pricing principles and pricing methodologies to be applied in the next regulatory control period.

6.24 Some of the issues that the Commission may canvass in the lead up to the second regulatory control period are discussed below.

Structure of network usage charges

6.25 The approved network tariff involves three components:

- a 'supply availability' component, being a fixed charge covering billing and other customer-related costs;
- a 'demand' component, based upon monthly peak demand (kVA); and

- an 'energy' component, based on the customer's monthly energy usage (kWh).

6.26 In its initial tariff submission of August 2000, PAWA noted that this tariff structure was designed to achieve, among other things:

"Recovering some charges based on energy designed to moderate the impact of charges based solely on demand. While there may be argument that network costs may bear little direct relationship to energy delivered, it is recognised that application of charges purely by demand may signal "too strongly" the cost effects. A compromise is customary in the implementation of network tariffs and is included here."

6.27 As explained in Chapter 5, the Commission interprets the role of the energy component of the approved reference tariff to be to avoid the revenue shortfall that would arise were network pricing based solely on long-run marginal costs. The energy component is essentially a residual to achieve the independently-determined revenue cap. In order to be a non-distortionary method of raising the required revenue to meet the remainder of long-run average costs not covered by the demand component, the energy component must be independent of demand (i.e. capacity).

6.28 In reviewing network tariffs for the second regulatory control period, the Commission recognises that consideration may need to be given to both:

- whether the current weighting of the components of the tariff is sufficient as a basis for indicating the long-run marginal costs of network infrastructure; and
- whether an alternative basis for revenue make-up might be more equitable and acceptable.

Scope of network tariffs

6.29 Currently, the network tariffs in place only charge:

- end-use customers or loads (as importers), not the generators (the exporters), for network access;
- for actual transportation of energy on the existing system, with connection charges (capital contributions) applying where an extension – or a non-standard access service – is involved; and
- for actual network usage, rather than for the provision of the potential to import energy if the need arises (standby).

6.30 Moreover, all end-use customers pay for the entire network, with no locational component in the network tariff. End-use customers (or their retailers if the retail tariff is 'bundled') pay in proportion to the customer's monthly energy usage (kWh) and monthly peak demand (kVA).

6.31 Following recent discussions about the role of embedded generation in the Territory's power system (discussed in Chapter 5), PAWA Networks has foreshadowed that:

"In the interests of better reflecting network costs that arise from the existence or location of generators and embedded generators, it is PAWA Networks' intention for the next regulatory period to put to the Utilities Commission the case for generators to be charged directly to recover the costs associated with their connection assets and an equitable portion of shared network assets."

6.32 The Commission acknowledges that experience over the course of the first regulatory control period may support a case for broadening the scope of network tariffs to include tariffs for generators.

6.33 In addition, at issue will be the appropriateness of separately identifying 'standby' and 'use of system' components of the current (combined) network access tariff.

Differentiation between customer classes

6.34 In submitting tariff schedules for 2002-03, PAWA amended its differentiation of the application of the structured and simple tariffs from a basis of contestable versus non-contestable, to a level of consumption basis.

6.35 For 2002-03, the structured tariff applies to all customers with annual consumption above 750 MWh per annum (that is all customers who are currently contestable), while the simple tariff applies to those customers using less than 750 MWh per annum.

6.36 Subject to an independent public benefit review to be conducted in 2002, choice of supplier is to be extended to consumers using between 160 and 750 MWh per annum on 1 April 2003 and to all electricity customers by 1 April 2005.

6.37 Issues for the second regulatory control period may include amending the current differentiation of customer classes, with consideration of both increasing the number of customer classes or the adoption of a single tariff structure to fit all.

Distribution versus transmission tariffs

6.38 In the DKTL Position paper, the Commission canvassed the issue of whether the additional revenues allowed to PAWA Networks on account of its ownership of the DKTL should be recovered through a specific DKTL tariff, which could be characterised as equivalent to a transmission tariff, or through a modified form of the existing tariffs that apply to the Darwin and Katherine distribution networks.

6.39 The Commission noted that, while separate pricing of transmission and distribution services in most regulatory regimes essentially reflected a judgment that transmission price signals were of sufficient importance to the effectiveness of the market to warrant a separate analysis, most customers are connected at the distribution level, and therefore receive a bundled network tariff incorporating both transmission use-of-system (TUOS) and distribution use-of-system (DUOS) tariffs.

6.40 In incorporating the DKTL into the regulatory regime, the Commission decided that the DKTL costs should be recovered from network users through a separately scheduled transmission (TUOS) tariff unbundled from the scheduled distribution (DUOS) tariffs. This decision was made on the basis that it would make the transmission tariff more transparent, and would allow for further consideration of the role and structure of a transmission charge in the Darwin and Katherine markets.

6.41 However, while the Commission has formally approved the charge for use of the DKTL separately, in practice the tariff schedules published by PAWA Networks incorporate this charge into a (bundled) Northern Grid Tariffs Schedule.

6.42 In light of this, whether separate distribution and transmission tariffs are necessary or appropriate needs to be addressed as the next regulatory control period approaches.

Bundled versus unbundled tariffs

6.43 In the lead up to the commencement of the current regime in April 2000, the Commission provided information to those customers who were identified as potentially contestable to assist them in making an informed choice in meeting their power needs.

6.44 Among other things, the Commission suggested that customers might find it easier to compare quotations from different suppliers if they request quotations to separately itemise the component energy and network charges. In addition, the cost-reflective structure of the approved reference tariffs was predicated on the resultant charges being transparent to individual customers.

6.45 Despite this encouragement, the Commission understands that most retail contracts to date have been based on bundled tariffs. As a result, there may be doubts about the extent to which network prices are capable of sending pricing signals to end-use customers.

6.46 As an issue for the second regulatory control period, the Commission will canvass both customers and retailers on the benefits of mandating that network charges should be identified separately from energy and other components on all end-use customers' accounts.

APPENDIX**A****UNDERS AND OVERS DETERMINATION INSTRUMENT**

In accordance with clause 26 of Power and Water Authority's Network ("PAWA Networks") licence, PAWA has advised the Commission of the recovery of regulated network revenue for the 2000-01 financial year, as follows:

Regulated Network	Regulated revenue cap	Revenue recovered	Difference	Variation (%)
Northern Network	\$53,790,000	\$55,780,742	\$1,990,742	+3.70%
Alice Springs	\$9,713,000	\$9,599,558	-\$113,442	-1.17%
Tennant Creek	\$3,028,000	\$3,240,974	\$212,974	+7.03%
Total	\$66,531,000	\$68,621,274	\$2,090,274	+3.14%

Commission's analysis

The Commission acknowledges that the revenue recovery for the Alice Springs networks is well within the $\pm 4\%$ lower tolerance band set by the Commission in its *Revenue Determinations 2000-01 to 2002-03* paper (published in September 2000). This under-recovery amount will be carried forward, via the under's and over's account arrangements.

The revenue recovered for the Tennant Creek network is greater than the $\pm 7\%$ upper tolerance limit set by the Commission. As a result, PAWA intends to provide an immediate rebate to the retailer to reduce this under's and over's account balance to zero.

The revenue recovered for the Northern network (Darwin-Katherine) is marginally within the Commission's $\pm 4\%$ lower tolerance limit of the determined regulated revenue cap. This would normally require an action plan to resolve the (account) balance within the regulatory period.

Given market circumstances, the Commission is not satisfied that there are strong grounds for believing that an offsetting under recovery is likely in 2001-02. The Commission has therefore directed PAWA to provide a rebate to the retailers concerned to reduce the Northern networks under's and over's account balance to zero.

The Commission expects the retailers concerned to pass on these rebates to individual end-use customers in those instances where any year-on-year variations in network tariffs in the 2000-01 year were borne in full by the end-use customer. In instances where such year-on-year variations were instead borne by the retailer, and not passed on to the end-use customer, the retailer would be justified in retaining the relevant portion of the rebate for its own benefit.

Under's and over's account summary

The resulting under's and over's accounts are summarised below.

Regulated Network	Total amount	Held as Over's	Held as Under's	Refund to Retailers
Northern Network	\$1,990,742			\$1,990,742*
Alice Springs	-\$113,442		-\$113,442	
Tennant Creek	\$212,974			\$212,974
Combined Networks	\$2,090,274		-\$113,442	\$2,203,716

* In accordance with the Commission's direction

Alan Tregilgas
 Utilities Commissioner
 (for the Utilities Commission)
 27 March 2002

APPENDIX**B****APPROVED NETWORK TARIFFS**

On 22 May 2002, the Commission approved PAWA's network reference tariffs and charges for 2002-03 - the final year of this first regulatory control period. In the Commission's opinion, these tariffs and charges comply with the relevant principles laid down in the Code.

The approved tariffs and charges are the maximum that the Authority can charge for standard network access services provided with respect to each electricity network.

Schedule 1 - Northern Grid

EXCLUDING GST

A - For Customers with consumption above 750 MWh per year

Reference Service¹ 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 ²	\$/kVA off peak	c/kWh peak [♦]	c/kWh off-peak [♦]
System Availability Charge					
Dollars per month	\$ 381.945				
Plus charges related to monthly demand					
First 50 kVA per month		\$ 5.729	\$ 1.337		
Next 100 kVA per month		\$ 4.966	\$ 1.184		
Next 300 kVA per month		\$ 4.125	\$ 1.031		
Next 500 kVA per month		\$ 3.132	\$ 0.878		
Next 1,000 kVA per month		\$ 2.368	\$ 0.726		
Next 1,000 kVA per month		\$ 2.139	\$ 0.649		
Any further kVA per month		\$ 2.139	\$ 0.649		
Plus charges related to energy metered					
First 10,000 kWh per month				2.942	2.656
Next 20,000 kWh per month				2.560	2.274
Next 50,000 kWh per month				2.083	1.797
Next 100,000 kWh per month				1.701	1.414
Next 200,000 kWh per month				1.319	0.936
Next 200,000 kWh per month				1.128	0.842
Any further energy per month				1.032	0.746

B - For Customers with consumption below 750 MWh per year

Reference Service¹ provided: Normal Transmission and Distribution of Electricity for customers supplied at low voltage³ 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	30.555	
Domestic: cents per day	19.097	
Plus charges related to energy metered		
First 1,000 kWh per month (pro-rated per billing period)		5.991
Energy used above 1,000 kWh per month (pro-rated per billing period)		5.035
Street lighting and other unmetered supplies		3.364

¹ Charges for increased or reduced service such as for higher reliability or for back-up supply to on-site generation are subject to negotiation.

² Peak and off-peak periods for demand and energy related charging rates will be as determined from time to time. The peak period rates currently apply to usage between 6.00 am and 6.00 pm on any day. Off-peak period rates apply at other times.

³ If a customer requiring less than 750 MWh per year is supplied at high voltage, a discount of 5% applies to Energy rate charges only.

[♦] These rates do not include the common service charge for the Darwin Katherine transmission Line.

Schedule 2 - Alice Springs

EXCLUDING GST

A - For Customers with consumption above 750 MWh per year

Reference Service⁴ 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 area.

	System Availability Charge	\$/kVA peak ⁵	\$/kVA off peak	c/kWh peak	c/kWh off-peak
System Availability Charge Dollars per month	\$ 439.482				
Plus charges related to monthly demand					
First 50 kVA per month		\$ 6.724	\$ 1.434		
Next 100 kVA per month		\$ 5.834	\$ 1.236		
Next 300 kVA per month		\$ 4.747	\$ 1.088		
Next 500 kVA per month		\$ 3.758	\$ 0.989		
Next 1,000 kVA per month		\$ 2.769	\$ 0.791		
Next 1,000 kVA per month		\$ 2.571	\$ 0.742		
Any further kVA per month		\$ 2.571	\$ 0.742		
Plus charges related to energy metered					
First 10,000 kWh per month				3.115	2.786
Next 20,000 kWh per month				2.677	2.347
Next 50,000 kWh per month				2.127	1.797
Next 100,000 kWh per month				1.687	1.358
Next 200,000 kWh per month				1.468	1.028
Next 200,000 kWh per month				1.249	0.918
Any further energy per month				1.249	0.918

B - For Customers with consumption below 750 MWh per year

Reference Service⁴ provided: Normal Transmission and Distribution of Electricity for customers supplied at low voltage⁶ in the Alice Springs network area.

	System Availability Charge	c/kWh anytime
System Availability Charge Commercial: cents per day	35.159	
Domestic: cents per day	21.974	
Plus charges related to energy metered		
First 1,000 kWh per month (pro-rated per billing period)		6.018
Energy used above 1,000 kWh per month (pro-rated per billing period)		4.919
Street lighting and other unmetered supplies		3.765

⁴ Charges for increased or reduced service such as for higher reliability or for back-up supply to on-site generation are subject to negotiation.

⁵ Peak and off-peak periods for demand and energy related charging rates will be as determined from time to time. The peak period rates currently apply to usage between 6.00 am and 6.00 pm on any day. Off-peak period rates apply at other times.

⁶ Note: If a customer requiring less than 750 MWh per year is supplied at high voltage, a discount of 5% applies to Energy rate charges only.

Schedule 3 - Tennant Creek

EXCLUDING GST

A - For Customers with consumption above 750 MWh per year

Reference Service ⁷ 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 area.

	System Availability Charge	\$/kVA peak ⁸	\$/kVA off peak	c/kWh peak	c/kWh off-peak
System Availability Charge					
Dollars per month	\$ 384.955				
Plus charges related to monthly demand					
First 50 kVA per month		\$ 8.084	\$ 1.693		
Next 100 kVA per month		\$ 6.929	\$ 1.501		
Next 300 kVA per month		\$ 5.621	\$ 1.309		
Next 500 kVA per month		\$ 4.543	\$ 1.116		
Next 1,000 kVA per month		\$ 3.773	\$ 0.962		
Next 1,000 kVA per month		\$ 3.465	\$ 0.809		
Any further kVA per month		\$ 3.465	\$ 0.809		
Plus charges related to energy metered					
First 10,000 kWh per month				4.508	4.220
Next 20,000 kWh per month				4.123	3.835
Next 50,000 kWh per month				3.450	3.160
Next 100,000 kWh per month				2.872	2.583
Next 200,000 kWh per month				2.198	1.814
Next 200,000 kWh per month				1.910	1.621
Any further energy per month				1.814	1.525

B - For Customers with consumption below 750 MWh per year

Reference Service ⁷ provided: Normal Transmission and Distribution of Electricity for customers supplied at low voltage⁹ in the Tennant Creek network area.

	System Availability Charge	c/kWh anytime
System Availability Charge		
Commercial: cents per day	30.796	
Domestic: cents per day	19.248	
Plus charges related to energy metered		
First 1,000 kWh per month (pro-rated per billing period)		13.242
Energy used above 1,000 kWh per month (pro-rated per billing period)		12.280
Street lighting and other unmetered supplies		9.874

⁷ Charges for increased or reduced service such as for higher reliability or for back-up supply to on-site generation are subject to negotiation.

⁸ Peak and off-peak periods for demand and energy related charging rates will be as determined from time to time. The peak period rates currently apply to usage between 6.00 am and 6.00 pm on any day. Off-peak period rates apply at other times.

⁹ Note: If a customer requiring less than 750 MWh per year is supplied at high voltage, a discount of 5% applies to Energy rate charges only.

Schedule 4 - Northern Grid - DKTL EXCLUDING GST

A - For Customers with consumption above 750 MWh per year

Reference Service provided: Common Service amount to be added to other charge rates for 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 to account for the common service charges associated with the Darwin Katherine Transmission Line.

	System Availability Charge	\$/kVA peak ¹⁰	\$/kVA off peak	c/kWh peak [♦]	c/kWh off-peak [♦]
Additional System Availability Charge Dollars per month	Nil				
Plus additional charges related to monthly demand For any kVA per month		Nil	Nil		
Plus additional charges related to energy metered For any kWh per month				0.488	0.488

B - For Customers with consumption below 750 MWh per year

Reference Service provided: Common Service amount to be added to other charges for Transmission and Distribution of Electricity for Customers supplied at low voltage in the Darwin and Katherine network areas to account for the Darwin Katherine Transmission Line.

	System Availability Charge	c/kWh anytime [♦]
Additional System Availability Charge Commercial: cents per day Domestic: cents per day	Nil Nil	
Plus additional charges related to energy metered For any kWh per month Street lighting and other unmetered supplies		0.488 0.488

¹⁰ Peak and off-peak periods for demand and energy related charging rates will be as determined from time to time. The peak period rates currently apply to usage between 6.00 am and 6.00 pm on any day. Off-peak period rates apply at other times.

[♦] These energy rates relate to common service charges associated with the -Katherine transmission line. These rates are additional to the rates in Schedule 1 for the Northern Grid.

APPENDIX**C****FRAMEWORK FOR NEGOTIATION OF DISCOUNTED
NETWORK TARIFFS****Background**

1. The Framework set out in this document is the Commission's elaboration of principles and processes broadly agreed at a round-table of interested parties chaired by the Commission on Friday, 17 May 2002.
2. The Framework is drafted on the basis that the access applicant will be a retailer. In cases where the access applicant is a generator or an end-use customer rather than a retailer, the Framework's references to a retailer should be read where applicable as references to the generator or the end-use customer.

Principles

3. The following principles underlie the Framework:
 - (a) the nature of the negotiation process – and the respective rights of the various parties in that process – should be known to all parties in advance of any negotiations (transparency principle);
 - (b) any discount negotiated below the approved reference tariffs should be based on a common approach for all network users consistent with clause 74(b) of the Network Access Code (non-discrimination principle);
 - (c) any discount negotiated below the approved reference tariffs – and the negotiation process involved – should not discriminate between competitors in upstream and downstream markets (competitive neutrality principle);
 - (d) no other network user should be worse off as a result of any discount negotiated below the approved reference tariffs than would be the case were the discount not given (ACCC Guideline 2); and
 - (e) the Framework should discourage excessive or frivolous applications for discounts.

Eligibility for discounts

4. Network tariffs may be negotiated below the approved reference tariffs in the following limited number of situations:
 - (a) where below-standard network access services sought by a particular end-use customer may result in cost savings to the network provider; or
 - (b) where there is a genuine threat of network “by-pass” by a particular end-use customer – either in whole or in part.

5. The network provider will advise retailers of the eligibility criteria to be met by end-use customers seeking a discount against the network reference tariffs. These criteria will elaborate on (a) and (b) in para. 4 above. The Commission's requirements of the network provider are that:

- (a) in respect of 4(a), the network provider is to publish a general indication of the service-level basis of the network provider's costs factored into the regulated network revenue cap; and
- (b) in respect of 4(b) above, the threat of bypass is to be independently verifiable, with the bypass scenario being shown to be technically and commercially credible.

6. The retailer is to document an end-use customer's claim of eligibility against the criteria nominated by the network provider under para. 5. The retailer will be responsible for the accuracy and completeness of the documentation so provided.

7. The network provider will be ultimately responsible for establishing a particular end-use customer's eligibility for a discount in terms of para. 4 above.

Negotiating process

8. Where a retailer applies to the network provider for a discount on an end-use customer's behalf, the network provider is to treat such an application as commercial in confidence.

9. Where more than one retailer applies for a discount on a particular end-use customer's behalf, the network provider is to negotiate with each retailer separately. Different retailers may seek different standards of service on the end-use customer's behalf. The network provider must negotiate with each retailer on a non-discriminatory basis.

Quantum and period of discount

10. If an end-use customer meets the eligibility criteria set by the network provider (under para. 5 above), the network provider is ultimately responsible for establishing the quantum of any discount in view of the end-use customer's circumstances and the standards of service being sought on the end-use customer's behalf.

11. In negotiating the quantum and period of a discount, the network provider is to negotiate with the retailer in terms of the underlying/inherent merits of the case for a discount given the end-use customer's circumstances and the standards of service being sought on the end-use customer's behalf, and not on the basis of the bargaining strength of – or the circumstances of – the retailer.

12. In respect of 4(a) situations, the discount to apply is to be no more than the cost savings to the network provider as a direct result of the below-standard level of network access services as measured against the network provider's costs factored into the regulated network revenue cap.

13. In respect of 4(b) situations, the discount to apply is to be no larger, nor for longer, than necessary to prevent the resultant network access charge altering the end-use customer's behaviour to the point of adopting the (complete or partial) bypass alternative (ACCC Guideline 1). The retailer should, as part of the documentation provided, nominate the minimum discount required for this purpose.

Role of the regulator

14. After the end of the regulatory year, when the network provider advises the Commission of the recovery of regulated network revenue against the determined revenue cap, the network provider must also supply details of all discounts negotiated in that year.

15. If, in the opinion of the Commission, the requirements on the network provider under this Framework have not been met in full or in part (especially in relation, but not limited, to paras. 5(a) and (b), 12 and 13), the network provider's "unders and overs account" will be adjusted to ensure that the network provider – rather than other network users – absorbs in full the costs of any discounts that were in the opinion of the Commission unwarranted. The network provider may, however, seek to recover these costs from the retailer or end-use customer concerned where the network provider has acted in good faith on information provided by these other parties when determining a discount that is later disallowed by the Commission.

16. Aggregate information about negotiated discounts will be included in information published by the Commission as part of its annual evaluation of revenue cap unders and overs.

Utilities Commission
24 May 2002

APPENDIX

D

**APPROVED FRAMEWORK FOR NEGOTIATING AGREEMENTS
FOR NETWORK SERVICES FOR EMBEDDED GENERATION
AND SIMILAR SITUATIONS****Preamble**

This framework for negotiating Agreements draws upon the Network Pricing Principles, which have been approved under the Access Code by the Utilities Commission. The Access Code has identified cost reflective signals, revenue recovery, simplicity, stability, equity, and subsidy free prices as the key objectives in network pricing.

These principles ensure that the revenue cap is recovered from users in a manner that is understandable, practical, efficient and equitable, and which reflects their usage and benefit from the network. The principles have been applied to network price formulation over the total retail customer's base (as was anticipated at the time of formulation) to recover the Maximum Allowable Revenue (MAR) set by the Utilities Commission.

The Network Pricing Principles have been used to set the approved tariff and schedule for PAWA standard customer supply situations where the network capacity, pattern and level of customer demand, and security of service are of appropriate standard, well known, and easily measured.

The standard tariffs are not directly applicable where the energy carriage differs markedly from where a customer taking its full requirements through the network.

Non standards supply situations

There are various scenarios under which a customer may use the network for carriage of only part of its electricity requirements. For example, installation of on site generation may offer apparent economies for the customer, especially if by-product heat from the generator is valuable. An embedded generator may result in the minimum use of the network. However, standby network services and standby generation may be needed.

Standby refers to the provision of network services and/or electricity in nonstandard situations where the normal supply sometimes may be unavailable or inadequate.

"Similar Situations" refers to other instances where a customer seeks to contract only part of its standard supply of electricity through the network systems, especially where the customer wishes to retain the option of taking standard supply.

Framework for negotiating agreements

This framework provides guidelines for applying the existing Network Pricing Principles to nonstandard site specific network service situations.

It should be noted that separate negotiations may be necessary with PAWA Generation or other generators to satisfy the Access Code requirements for standby generation capacity.

Framework

This Framework provides guidelines for applying the existing Network Pricing Principles to non-standard site-specific network service situations.

The negotiations for agreements for network services will be between PAWA Networks and the party(s) seeking network access and service (the embedded generator and/or its customer's retailer).

Negotiations will be on a case-by-case basis.

If there is a connection to the network, network service charges will be necessary to recover the cost of providing the service. There will only be no network service charges in cases where there is no connection to the network.

PAWA Networks seeks to recover a share of the network revenue cap determined by the regulator from such non-standard site-specific network service situations that is efficient and equitable and which reflects the usage of and benefit from the network.

In particular, the parties to the negotiations will take into account the following:

1. the required type of network services, including the duration, timing and immediacy of those services and the associated levels of standby capacity, import capacity and/or export capacity
2. the network costs associated with the provision of these network access services, including capital, operating and maintenance costs
3. the network extension and/or augmentation that may be necessary as a result
4. the future costs of network augmentation that may be avoided, reduced, or deferred by virtue of the existing network service assets no longer being fully required for embedded customers and therefore available for other purposes.

PAWA Networks
March 2002