Revenue Determinations 2001-02

May 2001

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Definitions

"Act"	means the *Utilities Commission Act 2000*
"Code"	means the *Electricity Networks (Third Party Access) Code* attached as a schedule to the Act, as amended
"Commission"	means the Utilities Commission established on commencement of the *Utilities Commission Act 2000*
"Darwin-Katherine Transmission Line"	means the 132 kV transmission line which extends from the network 132 kV bus at Channel Island Power Station to a 132/22 kV substation adjacent to the Katherine Power Station, with a 132/22 kV substation at Manton and a 132/66 kV substation at Pine Creek
"first regulatory control period"	means the period between commencement of the Code (on 1 April 2000) and 30 June 2003
"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

CHAPTER 1

BACKGROUND

Requirements of the Code

1.1 The Code requires that revenue caps be determined by the regulator for *each* financial year during the regulatory period (clause 66(2)).

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

(1) 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));

(2) the revenue cap to apply to 2000-01, in accordance with Schedule 6 to the Code (clause 69(1)); and

(3) 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 (clause 70).

1.3 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.

1.4 For second and subsequent years of a regulatory period, the Code requires that the methodology to be used by the regulator is to involve increasing the previous year’s revenue cap in line with both –

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

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

and decreasing it by the efficiency gains factor ("X factor") determined at the start of the regulatory period (clause 70(2)).

1.5 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. This report sets out the reasoning underlying the Commission's final determination as they apply to the financial year commencing 1 July 2001.

1.6 In making this determination, the Commission did not undertake any specific consultations as the key components of the revenue caps for 2001-02 have been determined previously in the June 2000 Report.

Darwin Katherine Transmission Line

1.7 The Commission has approved a variation to PAWA's network licence to include the DKTL. However, legislative amendments are necessary before the DKTL can be included within the regulatory regime and the Regulatory Minister must prescribe the DKTL as part of the regulated network.

1.8 In April 2001, a position paper titled Regulatory Treatment of the Darwin to Katherine Transmission Line ("the DKTL Decision Paper") set out the Commission's provisional decision regarding the regulatory treatment of the DKTL and the methodology to be used for its inclusion within the current regulatory pricing regime. PAWA has subsequently provided the Commission with the data necessary to enable the Commission to provisionally determine the additional revenue caps based on this methodology.

1.9 While this paper includes the Commission's provisional calculation of the increased revenue attributable to the DKTL at Chapter 4, this calculation cannot be formally ratified by the Commission – or take effect – until the legislative amendments are enacted and the DKTL's prescription takes place. Current indications are that these formalities may not be completed before 1 July 2001.

CHAPTER 2

NETWORK REVENUE CAPS 2001-02

Methodology

2.1 To determine the revenue cap to apply to PAWA's networks for the second year of the first regulatory period, the Commission has chosen to exercise the option provided for in paragraph (3) of Schedule 9 to the Code, namely use of a single cost driver related to the quantity of energy transported over the network and allowed revenues per additional unit equal to average per kWh revenues.

2.2 In particular, the Commission has chosen to apply the following formula:

$$CAP = [MAR_0 + b_0 * B_1] * [1 + (CPI_1 - X)] \qquad \ldots(1)$$

where:

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

b_0 is average price of transporting electricity (in cents per kWh) in the previous year, calculated by dividing MAR_0 by the total amount of electricity 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 financial year compared with the amount transported in the previous year;

CPI_1 is the forecast annual percentage change in the consumer price index for the year in question; and

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

Base MAR

2.3 In the June 2000 Report, the Commission indicated that it would consider resetting the previous year's revenue caps to be used when applying equation (1) for the purpose of determining a subsequent year's revenue cap in some limited circumstances. In particular, correction to the preceding year's revenue cap would be allowed were there any significant discrepancy between forecast and actual capital expenditure, as well as any cost passthrough effects on account of the GST and associated tax charges from 1 July 2000.

2.4 The revenue caps for the 2000-01 financial year were determined in June 2000 as follows:

Location	**CAP ($M)**
Darwin	46.299
Katherine	7.491
Alice Springs	9.713
Tennant Creek	3.028
TOTAL PAWA NETWORKS	**66.531**

2.5 For the purpose of determining the 2001-02 revenue caps, PAWA was invited to provide information in relation to the 2000-01 financial year on actual capital expenditure (including DSEP, gifted assets and recoverable works) for 1999-00 and 2000-01 year to date.

2.6 The purpose of this information was to assess whether any adjustment was necessary to the 2000-01 revenue caps to be used as a basis for the calculation of the 2001-02 revenue caps.

2.7 Capital expenditure as defined in the June 2000 Report is all capital expenditure with respect to PAWA's networks, including gifted assets and capital works. The table below provides a comparison of the data provided by PAWA for the June 2000 Report and revised data provided on 8 March 2001.

2000-01	June Report ($M)	March 2001 ($M)	Change
Darwin			
- PAWA Capex	10.188	10.286	1.0%
- Non-PAWA Capex (gifted assets and recoverable works)	6.049	5.857	
Total Capex	16.237	16.143	-0.6%
Capex used by U/C	16.237	16.143	-0.6%
Katherine			
- PAWA Capex	3.974	1.911	-51.9%
- Non-PAWA Capex (gifted assets and recoverable works)	0.657	0.223	
Total Capex	4.631	2.134	-53.9%
Capex used by U/C	3.102	2.134	-31.2%
Alice Springs			
- PAWA Capex	4.701	3.940	-16.2%
- Non-PAWA Capex (gifted assets and recoverable works)	0.192	0.110	
Total Capex	4.893	4.050	-17.2%
Capex used by U/C	3.525	4.050	+14.2%
Tennant Creek			
- PAWA Capex	0.380	0.318	-16.1%
- Non-PAWA Capex (gifted assets and recoverable works)	0.017	0.037	
Total Capex	0.397	0.355	-10.7%
Capex used by U/C	0.397	0.355	-10.7%

2.8 As requested, PAWA also provided actual data for the period 1 July 2000 to 31 January 2001. This is summarised in the table below.

Capex including Recoverable Works and Overhead Factor	Actual to 31 Jan($M)	% of Total	Forecast Feb to Jun ($M)	% of Total
Darwin	6.230	49.2%	6.408	50.7%
Katherine	1.524	71.4%	0.609	28.6%
Alice Springs	1.752	43.3%	2.296	56.7%
Tennant Creek	0.207	56.7%	0.154	43.3%
TOTAL PAWA NETWORKS	**9.713**	**50.6%**	**9.467**	**49.4%**

2.9 Given that actual figures cover a seven month period, while forecasts cover only five months, PAWA's capital expenditure is skewed towards the latter half of the year. While the Commission will continue to monitor developments in this area, at this stage it does not consider that there is sufficient evidence that actual capital expenditure for 2000-01 will be substantially lower than forecast.

2.10 While comparison of individual components of capital expenditure shows some sizeable percentage variations from the original figures used in the June 2000 Report, the net effect on the overall revenue cap is not significant.

2.11 Accordingly, on 18 April 2001, the Commission advised PAWA of its decision that there are no significant changes in the capital expenditure data and confirmed that the revenue caps previously determined for the 2000-01 financial year would be used as the base on which to calculate the 2001-02 revenue caps.

Quantity of energy transported

2.12 At the time it determined the 2000-01 revenue caps, the Commission had available estimates of the amount of electricity expected to be transported in 2000-01 and 2001-02. In the June 2000 Report, the Commission stated that these estimates (being the equivalent of energy sales) would only be 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 that seasonal variations would not be taken into consideration.

2.13 In providing the Commission with its updated data on energy sales, PAWA provided extensive data on energy sales over various periods, and submitted that there was no justification for altering the projected energy sales data used in the June 2000 Report.

2.14 While annual energy sales have shown a slight decline over the last two years, consideration of a longer 10 year term suggests that this may not indicate any new trend. PAWA suggested that the recent variations could be due to difficulties associated with end-of-year assessment of unread consumption, which may have resulted in a shifting of sales data between financial years.

2.15 On this basis, the Commission has used the same values for energy sales for each region for both 2000-01 and 2001-02 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.

2.16 As in the June 2000 Report, the price per unit of additional energy sold has been calculated by dividing the previous year's revenue cap by the total amount of electricity transported in that year.

	Darwin	Katherine	Alice Springs	Tennant Creek
Revenue Cap 2000-01 ($M)	46.299	7.491	9.713	3.028
2000-01 projected total energy sales (kWh)	919,706,875	176,620,825	186,500,865	39,883,000
Price per unit (c/kWh)	5.03	4.24	5.21	7.59
Rate of energy growth	2.50%	2.50%	0.50%	0.00%
Additional energy (kWh)	22,992,672	4,415,521	932,504	0
Value of additional energy ($M)	**1.157**	**0.187**	**0.049**	**0.000**

Expected inflation

2.17 In line with the basis of its determination set out in the June 2000 Report, the Commission has used a projected CPI increase of 3.0% for the 2001-02 financial year, based on a basket of industry forecasts.

'X' factors

2.18 In the June 2000 Report, the Commission indicated that it would also consider resetting the 'X' factors, determined at that time but to be used at a later date, only in certain circumstances. Correction would be considered for any trend variation in the expected annual energy sales growth factor, as well as any significant change in capital expenditure forecasts, underlying the calculation of the determined 'X' factors.

2.19 The 'X' factors for the 2001-02 and 2002-03 financial years were determined in June 2000 as follows:

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

2.20 PAWA was asked to provide information as follows:

- revised forecast capital expenditure (including DSEP, gifted assets and recoverable works) for 2001-02 and 2002-03, with supporting documentation; and

- total energy sales (kWh) on a month by month basis for each region extended to latest available figures, as per Appendix 18 of PAWA's submission: Quantifying the Revenue Cap (April 2000).

2.21 As discussed above in relation to the revenue caps for 2000-01, while individual components of forecast capital expenditure for the out-years 2001-02 and 2002-03 showed some variation from the original figures used in the June 2000 Report, the net effect on 'X' factor was negligible.

2.22 PAWA explained in their April 2000 submission 'Quantifying the Revenue Cap: 1 July 2000 - 30 June 2003' the formal processes that were required, as a government business enterprise, in gaining approval for their capital expenditure program. As approvals are only given for one year at a time and forward year proposals are kept as estimates only, there is always a degree of uncertainty associated with forward estimates of capital expenditure.

2.23 With respect to energy sales, and as discussed above, while some downward variation is apparent in the last two years, there is insufficient evidence of any change in the underlying trend in the rate of growth of energy sales on a longer term basis.

2.24 Accordingly, the Commission has decided that the 'X' factor previously determined for the future years of the first regulatory period should continue to be used.

CHAPTER 3

REVENUE CAP DETERMINATION

3.1 The revenue caps applying to PAWA's regulated networks with respect to the 2001-02 financial year are determined as follows:

REVENUE CAP DETERMINATION				
$million	**Darwin**	**Katherine**	**Alice Springs**	**Tennant Creek**
Revenue Cap 2000-01	46.299	7.491	9.713	3.028
Projected value of additional energy sales	1.157	0.187	0.049	0.000
New base MAR	47.456	7.678	9.762	3.028
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 2001-02	**46.840**	**7.640**	**10.123**	**3.064**

3.2 Furthermore, in line with its pricing approvals decision (in August 2000), the Commission has determined that the revenue caps for Darwin and Katherine should be treated on a combined basis. As a consequence, the Commission has determined the revenue cap for 2001-02 for PAWA's Northern distribution grid should be equal to $54.480 million, that being the sum of the $46.840 million for Darwin and $7.640 million for Katherine.

CHAPTER 4

DARWIN-KATHERINE TRANSMISSION LINE

Methodology

4.1 In the DKTL Decision Paper, the Commission indicated its provisional decision was that the additional revenue allowed to PAWA Networks following the purchase of the DKTL would be incorporated into the existing revenue control regime through the utilisation of the K term provided for in Schedule 9(2) to the Code.

4.2 In particular, for both the 2001-02 and 2002-2003 financial years, the Commission was disposed to calculating the revenue cap for the Northern Grid including the DKTL (CAP^*_{North}) according to the following formula:

$$CAP^*_{North} = CAP_{North} + \Delta CAP_{DKTL} \qquad \ldots(2)$$

where:

CAP_{North} is the revenue cap determined for the Northern grid exclusive of the DKTL assets; and

ΔCAP_{DKTL} is the increase in PAWA's Northern Grid revenue cap on account of inclusion of the DKTL, calculated in accordance with the methodology set out below.

4.3 The Commission expects to calculate the DKTL component of the revenue cap for the Northern Grid in respect of a particular financial year using the building block approach as specified in the Code as follows:

$$\Delta CAP_{DKTL} = (\Delta CAPITAL * WACC) + \Delta DEP + \Delta OMA \qquad \ldots(3)$$

where:

$\Delta CAPITAL$ is the cost of the DKTL ($M)

$$= [(\Delta VALUE + 0.5*\Delta CAPEX)*(1 + \Delta PI)^{-½}] \quad ...(4)$$

where:

ΔVALUE is the estimated depreciated value of the DKTL assets at the beginning of the financial year ($M);

ΔCAPEX is the increment in capital funds expected to be expended in the financial year in connection with the replacement or upgrading of DKTL fixed assets ($M); and

ΔPI is the forecast change in an appropriate price index for the financial year (%);

WACC is the real-terms pre-tax weighted-average cost of capital invested in the DKTL (%);

ΔDEP is the expected increment to the depreciation charge for the period on account of the depreciation of the DKTL assets ($M); and

ΔOMA is the expected increment of the operations, maintenance and administration expenditure for the period by the network business on account of the DKTL ($M).

4.4 The usual terms relating to working capital, capital contributions and the value of assets expected to be decommissioned in the financial year before the end of their economic life are not shown in equation (4), as it is expected that purchase of the DKTL will not involve any addition in the amounts previously advised by PAWA and incorporated into the existing revenue caps.

4.5 In order to ensure consistency within the regulatory period, the Commission's provisional decision is to use the WACC and ΔPI determined for PAWA's distribution networks and published in the June 2000 Report, these being 7.94% and 2.50% respectively.

Asset value

4.6 In the DKTL Decision Paper, 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.

4.7 On this basis, the Commission has indicated 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.

4.8 PAWA engaged Sinclair Knight Merz (SKM) in conjunction with KPMG to independently value the DKTL. The reference date for the valuation was 31 January 2001.

4.9 Based on this valuation, PAWA calculated depreciation on an individual life basis, determining annual depreciation and resulting depreciated values and depreciated optimised values as 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 purposes.

4.10 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 as was used by the Commission in the June 2000 Paper.

4.11 The following values have been accepted by the Commission:

D**Value**	**($M)**
2001-02	38.923
2002-03	38.714

Depreciation

4.12 As detailed above, PAWA's calculation of depreciation was performed on an individual life basis, and the methodology confirmed by KPMG.

4.13 The following values have been accepted by the Commission as the expected increment to the depreciation charge for the period on account of the depreciation of the DKTL assets:

D**DEP**	**($M)**
2001-02	1.154
2002-03	1.182

Capital expenditure and decommissioned assets

4.14 PAWA has advised that there will be no capital expenditure in the current period, and no retirements.

4.15 The Commission has also been advised by PAWA that, at a later stage, some works may be necessary to relocate the control systems for the line from the NT Power Transmission Pty Ltd control room to the PAWA control room, probably towards the end of the current operation and maintenance arrangement. Because of the uncertainty involved, the Commission proposes not to make any allowance for this expenditure.

Operating and maintenance costs

4.16 PAWA's initial advice to the Commission of its DKTL operating and maintenance costs for the period included a corporate overhead component.

4.17 In line its previous decisions regarding recovery of DKTL costs, the Commission prefers not to allow PAWA to include these costs as a direct component of the DKTL charge. The Commission is of the view that the case for recovery of this proportion of PAWA's overheads from users of the transmission line is not at all clear, and that this overheads component should be recovered instead from users of the distribution network.

4.18 In the Commission's view, this matter is best addressed in conjunction with the forthcoming overs/unders review as it will allow consideration of other 'errors' and serve the price stability objective.

4.19 Accordingly, the Commission proposes to use the following data as the expected increment to the operations, maintenance and administration expenditure for the period by the network business on account of the DKTL:

D**O&M**	**($M)**
2001-02	1.336
2002-03	1.363

DKTL provisional determination

4.20 The Commission's provisional determination of the increase in PAWA's Northern Grid revenue caps for both 2001-0 and 2002-03 on account of inclusion of the DKTL is as follows:

DKTL PROVISIONAL DETERMINATION		
$million	**2001-02**	**2002-03**
Regulated Asset Base	38.923	38.714
Return on Capital	3.091	3.074
Return of Capital (Depreciation)	1.154	1.182
Return of Operating Costs	1.336	1.363
Maximum Allowable Revenue (=DCAP$_{DKTL}$)	**5.581**	**5.619**

4.21 This provisional determination has no effect until the Regulatory Minister prescribes the DKTL to be a regulated network for the purposes of the *Electricity Networks (Third Party Access) Act 2000*. The final determination will be a matter for consideration by the Commission only after the DKTL becomes a prescribed network.