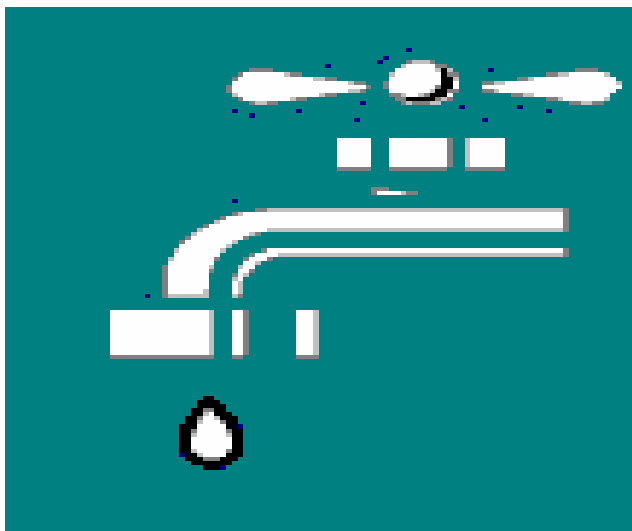




INDEPENDENT CONSUMER & COMPETITION COMMISSION

REVIEW OF EDA RANU'S CURRENT PRICING  
ARRANGEMENT

FINAL REPORT



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31<sup>st</sup> December 2007

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## FOREWORD

The Minister for Treasury has on the 3<sup>rd</sup> of July 2007 lodged an application with the Independent Consumer & Competition Commission (“Commission”) pursuant to Section 25A(2) of the *Prices Regulations Act* (hereinafter called the “PR Act”) to review Eda Ranu’s current pricing arrangement with a particular focus on the capital expenditure requirements which Eda Ranu committed to undertake between the period of the current price path, being from 2005 to 2009.

The Commission has undertaken this review in accordance with Sections 25B and 25C of the PR Act. The review process was undertaken by the Commission in an open and transparent manner to encourage participation and consultation from the general public and stakeholders. As part of this process, the Commission released an Issues Paper on the 8<sup>th</sup> of August 2007 detailing the various issues of relevance on which submissions and comments were invited from the industry stakeholders and other interested parties.

Following the release of the Issues Paper, the Commission released the Draft Report on the 16<sup>th</sup> of November 2007 and again called for further comments/submissions to the Draft Determinations. The submission of these views and comments made to the Issues Paper and then the Draft Report have been invaluable in assisting the Commission reach its final decision on an appropriate price path to apply to Eda Ranu for the remainder of the current regulatory period. In addition, the Commission took the opportunity to publish a Section 20A notice outlining the Draft Prices Order should the recommendations in the Draft Report be adopted. A schedule of those respondents who provided submissions through different stages of this Review process is set out in Appendix C of this Final Report.

It has been stated at the start of the review that this Review is not intended to be an ‘opening-up’ or a comprehensive review of the current price path of Eda Ranu, but more focused towards a revisitation of the capital expenditure aspects of the current price path. In that regard, the Commission’s primary focus on this review which is reflected in this Final Report (“Final Report”) is focussed on the commitments made by Eda Ranu in 2004 in respect to the amount of capital expenditure (and more particularly those relating to the Port Moresby Sewerage Upgrading Project) which it committed to undertake within the period of the price path. Under the current pricing arrangements, this proposed capital expenditure has been factored into the price path in order to allow Eda Ranu to recoup its cost of depreciation whilst concurrently realising an appropriate return of these proposed capital investments. While the additional revenue associated with the Sewerage Upgrading Project has been received, the capital expenditure has not yet commenced. This is one reason for the application for review from the Minister of Treasury to the Commission.

The price path methodology used by the Commission was based on a penalty/incentive arrangement and the reason for the Commission to adopt such an approach to include the future capital expenditure commitments in the pricing arrangement was to provide Eda Ranu with the incentives to invest into its water and sewerage networks. These incentives over time will result in efficient infrastructure investments which will in turn result in water and sewerage prices which are reflective of the efficient costs incurred in the provision of reticulated water and sewerage services in Port Moresby going forward.

This Final Report sets out the new price path to apply to Eda Ranu for its provision of water and sewerage services for the remainder of the current regulatory period, commencing 1<sup>st</sup> January 2008 and ending in 31<sup>st</sup> December 2009.

Finally, I would like to take this opportunity to thank those organisations and businesses who participated in the review process by providing comments and views to the Commission in the course of this review up until its completion and subsequent release of the Final Report.

Thomas Abe  
Commissioner

December 31, 2007

## 1. EXECUTIVE SUMMARY

This Review has been undertaken by the Commission in accordance with the provisions of Section 25 of the PR Act pursuant to a formal application lodged by the Minister for Treasury under the applicable provisions of the said Act.

This executive summary sets out to provide an overview of the Commission's key findings and its final determinations that will apply to the pricing arrangements of Eda Ranu going forward till 2009. These key findings and determinations are based on the submissions and comments received by the Commission as part of the stakeholder consultation process to date, including the release of an Issues Paper on 7<sup>th</sup> August 2007 and the Draft Report on 16<sup>th</sup> November 2007.

### 1.1 Key Findings

In terms of the sewerage infrastructure, Eda Ranu, under the existing price path, was to have incurred K252 million as its capital expenditure on its sewerage infrastructure over the period of the price path (from 2005 to 2009). The Commission made the assumption that this expenditure would occur uniformly over the five year regulatory period. However, the Review has established that Eda Ranu has not incurred the capital expenditure it committed to undertake on its sewerage and water infrastructure over the last 2 and half years from 2005 to June 2007. The Commission notes that Eda Ranu has only incurred about K2.3 million as at the date of this Report which is about 0.8% of the total capital expenditure earmarked to be undertaken by Eda Ranu.

Notwithstanding the above, the Review has also established that Eda Ranu is moving forward to implement the project, and that there were certain factors that affected Eda Ranu's ability to incur the capital expenditure which was outside Eda Ranu's immediate control. A major factor being the delay in the government's negotiation for the securing of an external concessional loan which constitutes a significant proportion of the up-front capital expenditure earmarked to be undertaken.

The Commission therefore considers it appropriate that certain changes within the price path including the respective tariffs will need to be made in order to reflect the current circumstances and to ensure that there is a balance between the commercial objectives of Eda Ranu and the welfare of the consumers of water and sewerage services in Port Moresby. This is detailed in the Commission's final determination set out below.

## 1.2 Key Final Determination

For this final determination, the Commission has re-affirmed the recommendation developed within the Commission for the draft determination, that Eda Ranu's tariffs be reduced such that they be adjusted annually over the last two years of the current regulatory period based on  $CPI - 2.5\%$  (or  $CPI$  minus 2.5%, a real price reduction) in line with the considerations outlined in section 4.2 of this final determination. The resulting potential reduction in Eda Ranu's revenue and ultimately profit levels will need to be managed by two operational measures which are within the control of Eda Ranu. These measures are:

- A reduction of costs (the forecast costs in these remaining two years of this current regulatory period are still likely to be above the ramp-up capital expenditure costs, once project financing is completed, and there are remaining opportunities to have operational & maintenance expenditure outcomes below those forecast for the price path); and
- An increase in the revenue collected by Eda Ranu (which can be achieved through reducing revenue leakage from "losses" including reduction in un-metered delivery, better billing collection and through reduction in physical water loss).

As such Eda Ranu's future prices for water and sewerage services for the remaining two years of the current regulatory period will be determined by movement in the CPI (excluding bettlenut, tobacco and alcoholic beverages) and the X factor of  $-2.5\%$  in the formula  $CPI - X$  (or  $CPI$  minus X).

This price path means that Eda Ranu will be able to set prices for the different categories of its customers, however, the average revenue of these categories must be equal to or less than the maximum average revenue (MAR) that the Commission will allow under this price path.

## 2. INTRODUCTION & BACKGROUND

### 2.1 Overview of Commission & Legislative Arrangements

The Commission is a statutory body, established under the provisions of the *Independent Consumer and Competition Commission Act 2002* (“ICCC Act”), which has been given responsibility for the promotion of competition and fair trading, the regulation of prices for certain goods and services, and the protection of consumers’ interests and other related purposes.

The Commission is also responsible for the administration of the Prices Regulation Act (“PR Act”) relating to the price regulation of certain goods and services declared by the Minister for Treasury for the purposes of this Act. As part of the economic regulatory reforms undertaken in 2002, certain amendments were made to the PR Act which saw the inclusion of certain provisions that effectively allowed for the review into the pricing aspects of certain goods or services declared under this Act. The Commission as the authorised regulatory body can undertake such a review on its own volition or upon any written request from the Minister responsible for the Act, or the supplier of the declared good or service concerned.

The Commission is undertaking this review in accordance with the amended provisions of the PR Act, having regard to the following:

- Sections 10, 20A & 20B and 25A, 25B & 25C of the amended PR Act; and
- Confidentiality and public disclosure provisions of the PR Act relating to information received from stakeholders and other interested parties.

The appropriate provisions of the PR Act are attached as Appendix B to this Final Report.

### 2.2 Overview of Review

#### 2.2.1 Background

Water and Sewerage services are among the list of goods and services declared for the purposes of price regulation. The Commission in 2004 undertook a comprehensive review into the pricing arrangements of water and sewerage services provided by PNG Waterboard and Eda Ranu. In its final determination, the Commission, amongst other things, structured a price path for Eda Ranu, which was intended to allow Eda Ranu to recover its efficient costs to meet its cost of capital and the cost of depreciation. The Commission’s final determination, inclusive of the price path, was to be applied over a five (5) year regulatory period commencing 1<sup>st</sup> January 2005 and ending on 31<sup>st</sup> December 2009.

### 2.2.2 Minister's Application

On the 3<sup>rd</sup> of July 2007, the Minister for Treasury, who is the Minister responsible for the PR Act, formally lodged an application with the Commission to review Eda Ranu's current pricing arrangements. The Minister's application contends that Eda Ranu has not incurred the necessary capital expenditure it committed to undertake for the last two and half years since the inception of the current pricing arrangements. The Minister's application is more focused on the capital expenditure Eda Ranu earmarked to be undertaken for the purposes of the Port Moresby Sewerage System Upgrading Project ("PSSUP"). Accordingly, the Minister submits that the current pricing arrangements will have to be reviewed by the Commission with a view towards a downward adjustment in the annual allowable revenues including the subsequent impact on customer tariffs to reflect Eda Ranu's failure in incurring this capital expenditure in line with the original forecasts.

### 2.2.3 Purpose of this Review

Consistent with the initial application from the Minister, the principal objectives of the Review are to:

- Review and identify Eda Ranu's capital expenditure and other capital works undertaken by Eda Ranu to date since 2005;
- Assess and establish whether the forward capital expenditure detailed under the current price path of Eda Ranu has been incurred or otherwise including its proposed capital expenditure (if any) for the remaining period of the current price path; and
- Make appropriate determination as to whether the current capital expenditure detailed in the current price path including the overall pricing arrangement be continued, varied, or terminated for the remaining period of the price path including its subsequent tariffs going forward.

### 2.2.4 Review Process

During the review process, the Commission provided opportunities for the general public, key government departments, other businesses and Eda Ranu to provide submissions on the Issues Paper and the Draft Report. The initial timetable for the review was as follows;

- Release of Issues Paper 8<sup>th</sup> August 2007
- Close of submission on Issues Paper 29<sup>th</sup> August 2007
- Release of Draft Report 16<sup>th</sup> November 2007

- Close of submission on Draft Report      26<sup>th</sup> November 2007
- Release of Final Report                      31<sup>st</sup> December 2007

The format in which this Review has been undertaken is structured to be as open and transparent as much as possible consistent with the applicable provisions of the PR Act relating to the conduct of such Reviews.

#### 2.2.5 Timeframe of this Review

Pursuant to Section 25C of the PR Act, the Commission is allowed a period of 90 days from the date of the receipt of the application to complete the Review. The application from the Minister for Treasury was lodged with the Commission on the 3<sup>rd</sup> July 2007, therefore the 90 day period lapsed on the 1<sup>st</sup> October 2007. However, in view of a request by Eda Ranu and to give ample time for other interested persons or parties to contribute to this review, the Commission under Section 25C(2) of the PR Act sought additional 30 days extensions of the review period which has accordingly extended the review period up to 31<sup>st</sup> December 2007. As a requirement of the relevant legislative provision, the statutory instruments for extension have been published in the National Gazette. Copies of the Gazettes are attached to appendix C of this report.

## 3. EDA RANU'S CAPITAL EXPENDITURE COMMITMENTS

### 3.1 Current Capital Expenditure Commitments

Consistent with the Commission's Final Report of the 2004 water and sewerage industry pricing review ("2004 Review"), Eda Ranu has agreed to undertake certain capital works over the period of the price path (2005-2009) which includes forward estimates of capital expenditure on both its water and sewerage infrastructure in Port Moresby. As part of its commitment, Eda Ranu committed to undertake an upgrading of its sewerage infrastructure to the value of K245 million within the five year regulatory period. In addition to the major sewerage upgrading, Eda Ranu also planned to undertake sewer extensions on rateable land and sewerage lagoons amounting to the value of K7 million.

In the Commission's final determination in the 2004 Review, the amount of K245 million was combined with K7 million and was spread out in equal instalments of K50.4 million on an annual basis over the five year regulatory period. Such was considered necessary by the Commission in order to avoid price shocks in any one particular year, even when the expenditure amount was lumped into one year or major instalments occurred in any two or more years within that period. Further details of the capital expenditure programs committed by Eda Ranu to be undertaken as part of its pricing arrangements are set out below under water and sewerage.

#### 3.1.1 Water

From the 2004 Final Report, Eda Ranu identified five capital works projects for its water infrastructure. This represented about 18% of its total capital expenditure program. These projects which were planned to be completed over the regulatory period to maintain and improve its water network are set out in the table below together with the projected costs:

*Table 1 - Capital Works project for Water*

Project Description	Project Costs (Kina million)
Bulk meter & measuring point chambers in network	0.40
Trunk main valve replacement of network	0.525
New pipeline extensions of network	0.50
Touguba pump station pump replacement (new pump house & rising main)	0.43
Marine line to Napa Napa oil refinery	1.0
Balance of works under BOT contract (raw water main, treatment plant upgrade, distribution trunk mains laying, reservoirs pipe upgrade & telemetry)	50.0
<b>Total</b>	<b>52.855</b>

*Source: ICCC Final Water Report, 2004 p36: Eda Ranu proposed capital expenditure program for water*

### 3.1.2 Sewerage

Under its sewerage program, Eda Ranu identified four major projects, representing the remaining 82 percent of its total capital expenditure program to upgrade and improve the sewerage network. These are detailed in the table below together with the projected costs for each project:

*Table 2 - Capital Works for sewerage*

Project Description	Project Costs (Kina million)
Sewerage pump station perimeter fencing	0.15
Stanley Esplanade pump station upgrade	0.60
Network extension at Touguba & Ela Makana	0.60
Port Moresby sewerage upgrade project	245.00
<b>Total</b>	<b>246.35</b>

*Source: ICCC Final Water Report, 2004 p36: Eda Ranu proposed capital expenditure program for sewerage*

The Port Moresby Sewerage Upgrading Project (“PSSUP”) totalling an estimated K245 million is to a larger extent, the primary focus of this Review. Eda Ranu committed to undertake this expenditure on the PSSUP and therefore was factored into the current price path by the Commission in the 2004 Review. The table below shows the aggregate capital expenditure program as outlined in the current price path of Eda Ranu.

*Table 3 - Aggregate Capital Expenditure Program*

Year ending 31 December (nominal K'000)	2005	2006	2007	2008	2009
Commission’s Final Decisions on Eda Ranu’s capital expenditure review	56,600	56,440	56,440	56,440	56,440

*Source: ICCC Final Water Report, 2004 p37: Eda Ranu capital expenditure program*

Based on Table 2 and 3, Eda Ranu had committed to incur a total capital expenditure of K282.36 million on its sewerage infrastructure alone over the five year period, of which K245 million or about 87% of the total sewerage capital expenditure represents the capital expenditure to be incurred specifically on the PSSUP.

In the 2004 Review, the Commission used the above capital expenditure together with other financial information and developed a five year price path for Eda Ranu. The Commission allowed Eda Ranu to earn a Maximum Average Revenue (“MAR”) for both its water and sewerage services as a bundled service. Over the period of the price path, the Commission ensured that Eda Ranu’s MAR grew in line with the rise in the general price levels in the economy (as measured by the CPI) together with an efficiency factor to ensure that it recovers its cost of capital and depreciation incurred for the capital employed in its infrastructure. Some of this return on capital and depreciation relates to the new capital expenditures during the regulatory period, including the PSSUP.

In particular, the MAR for its water and sewerage services was to grow by CPI+11% and CPI+10% in 2005 and 2006 respectively and to subsequently grow by a further CPI+5% annually over the next three years till the end of 2009. These price directions would have allowed Eda Ranu to recover its efficient operating costs, to meet the costs of capital and recover the costs for depreciation.

### 3.1.3 Regulatory Asset Base (“RAB”)

The Regulated Asset Base (“RAB”) is the value of the asset base on which Eda Ranu’s pricing are determined by the Commission. Basically it is the value of its asset base in which Eda Ranu receives a return on and of its capital employed in its business. The RAB is usually determined in a two step process. The first step involves the Commission determining the appropriate value of the opening RAB for Eda Ranu through the use of appropriate asset valuation methodologies. The second step requires the Commission to then roll forward the opening RAB for the subsequent years including the following:

- The forecasts of capital expenditure, to determine whether they are prudent and efficient, and hence can be included in the forecast capital base for the new regulated period; and
- Forecasts of depreciation, disposals, inflation and asset redundancy (if any) over the new regulation period.

Hence, based on the 2004 review, Eda Ranu’s initial and subsequent RAB are set out in Table 4 below:

*Table 4 -Opening and subsequent Regulatory Asset Base*

Year ending 31 December (nominal kina '000')	2005	2006	2007	2008	2009
Opening Value	20,734	80,167	143,230	210,303	281,624
Capital Expenditure/Addition (net of cap cons)	56,600	56,440	56,400	56,440	56,400
Disposals/assets written off	Nil	Nil	Nil	Nil	Nil
Depreciation	1,086	2,049	3,083	4,201	5,408
Indexation	3,923	8,671	13,716	19,082	24,787
Closing value	80,167	143,230	210,303	281,624	357,444

Source: ICCC Final Water Report, 2004 p43: Eda Ranu roll forward of initial RAB

Given that the annual capital expenditure commitments of Eda Ranu (and more particularly the PSSUP) constitutes a significant portion of the company's asset base, an adjustment of the capital expenditure value for the years 2007 to 2009 is likely to significantly impact upon the RAB value in the subsequent years. This will subsequently impact on Eda Ranu's MAR and its tariffs going forward. It will also have implications for the current project financing arrangements being negotiated for the PSSUP.

### 3.2 Actual Capital Expenditure Incurred

Eda Ranu submitted that while it has not commenced work on the PSSUP, it has already incurred some capital costs to date in relation to the project. These costs are detailed in the table below:

*Table 5. Actual Capital Expenditure incurred*

Actual Capital Expenditure incurred by Eda Ranu from January 2004 to July 2007					
Project Descriptions	Jan-Dec 2004	Jan-Dec 2004	Jan-Dec 2004	Jan-Dec 2004	Total <i>In Millions K</i>
Port Moresby sewerage system upgrade project	503,809.15	695,734.83	561,449.47	268,536.46	2,029,529.91
Prepaid Water meter Project			34,984.18	22,500.00	57,484.18
Water bottling Project			633,962.71	49,501.55	683,464.26
Trade Waste Policy Project				194,288.70	194,288.70
Lands and buildings	48,707.82				48,707.82
Motor vehicles	500,499.00	248,474.00	781,465.68		1,530,388.68
Plant and Equipment	141,398.73	129,206.61	657,359.52	221,047.72	1,149,012.58
Furniture and Fittings	15,436.36	68,412.74	8,532.95	18,187.85	110,569.90
<b>Total (In millions kina)</b>	<b>1,209,801.06</b>	<b>1,141,828.18</b>	<b>2,677,754.51</b>	<b>774,062.28</b>	<b>8,803,446.03</b>

Source: Eda Ranu's submission to page 2 of Issues Paper, 200. Table A

For the past regulatory period ending June 2007, Eda Ranu spent a total of K2.03 million for the PSSUP against the originally projected capex of K165 million within that period. This is about 1.2% of the projected capital expenditure accumulated to 2007. Unless specified by Eda Ranu, all other Capital expenditure incurred over the last 3 years appears not to be directly related to the PSSUP but appear more to be related to its water infrastructure. Nonetheless, even if the capital expenditure is incurred for its water infrastructure, it is still much lower than the overall capital expenditure commitments for its water infrastructure.

From the information provided in Table 5 above, the Commission notes that Eda Ranu, in the first two and half years of the five year period, actually incurred only 0.8% of the K245 million capital expenditure planned for the sewerage upgrade project.

### 3.3 Planned Capital Expenditure

Eda Ranu has submitted that it believes the project will still go ahead once project financing arrangements are negotiated and agreed. Eda Ranu, in its submission to the Commission has revised its projected capital expenditure to be undertaken during the remainder of the current regulatory period from August 2007 to December 2009. These revised projections are shown in Table 6 below. It should be noted that Eda Ranu did not indicate whether the planned capital expenditure is inclusive of the external loan currently under negotiation, however from the figures provided, it appears the projections are made excluding the bulk of the proposed loan.

*Table 6 - Forecast Capital Expenditure*

Planned Capital Expenditure for August 2007 to December 2009				
Project Description	Aug-Dec 2007	Jan-Dec 2008	Jan-Dec 2009	Total In Million K
Port Moresby sewerage system upgrade project	5,669,330	1,248,880	11,457,160	18,375,370
Prepaid Water meter Project	100,000	1,500,000	500,000	2,100,000
Water bottling Project	500,000	5,000,000	5,000,000	10,500,000
Trade Waste Policy Project	200,000	150,000	150,000	500,000
Lands and buildings	200,000	1,300,000	500,000	2,000,000
Motor vehicles				
Plant and Equipment	300,000	600,000	300,000	1,200,000
Furniture and Fittings	20,000	20,000	20,000	0.06
<b>Total (In millions kina)</b>	<b>6,989,330</b>	<b>9,818,880</b>	<b>17,927,160</b>	<b>34,735,370</b>

*Source: Eda Ranu's submission to Issues Paper, 2007 p.5. Table B*

The revised capital expenditure on the Port Moresby sewerage project is estimated to be K18.4 million for the remainder of the 5 year regulatory period. This represents about 7.5 % of the total capital expenditure (K245

million) initially earmarked by Eda Ranu. Combining the K2.3 million already incurred by Eda Ranu together with the K18.4 million, Eda Ranu over the 5 year regulatory period would incur a total of K20.4 million as capital expenditure on its sewerage infrastructure which is K221 million below what was initially committed and factored into the current price path.

The original and revised capital expenditure commitments by Eda Ranu for its sewerage infrastructure are detailed in Table 7 below:

*Table 7 - Capital Expenditure Commitments against Revised*

POM Sewerage Upgrade	2007 (K' 000)	2008 (K '000)	2009 (K' 000)	Total (K' 000)
Original Capex	56,440	56,440	56,440	169,320
Revised Capex	5,938	1,249	11,457	18,399
Difference	50,502	55,191	44,983	150,921

It is thus evident that the revised capital expenditure is significantly lower than the initial capital expenditure committed by Eda Ranu.

### 3.4 Submissions

In its submissions to the Issues Paper, Eda Ranu acknowledged that it has not implemented the PSSUP as planned since the commencement of the current price path. However Eda Ranu contended that it is committed to undertaking the PSSUP however the delay experienced in the implementation of the project is beyond its control and not of its own making. Eda Ranu further submitted that the National Executive Council (“NEC”) has approved the project and that most of the funds to be incurred will be sourced from the Japanese Bank for International Co-operation (“JBIC”) under an external financing arrangement. However the negotiations between the external financier and the government have been the major cause of the delay in implementing the planned capital expenditures and this was effectively outside the control of Eda Ranu.

Even though it has not implemented the PSSUP, Eda Ranu in its submission stated that money it collected as revenue from its price path which relates to the forecast PSSUP capital expenditures has been put aside in a separate bank account to meet the cost of borrowing when it is finalised and that it had already incurred some capital cost<sup>1</sup> relating to the PSSUP. Furthermore, Eda Ranu submitted that it has taken the steps necessary to prepare for the implementation of the PSSUP once the negotiations are finalised and the offshore loan is drawn down.

The Independent Public Business Corporation (“IPBC”) tends to support Eda Ranu that the PSSUP will be implemented shortly. It further contends that the NEC has already approved the PSSUP and the stakeholders are in the

<sup>1</sup> Refer to Table 5

process of implementing the NEC decision which is expected to be finalised at the end of October 2007.

Given the backing of the NEC and the delay experienced which Eda Ranu contends is outside its control, Eda Ranu proposed for the Commission not to amend the prices downward as it may affect the implementation of the project. Eda Ranu stated in its submission that in the first two years of the regulatory period, the Commission gave significant adjustments to improve the financial performance of Eda Ranu, thus a decision to amend the prices further downward now would be unwise.

In regards to Eda Ranu's financial position for the purposes of financing the PSSUP, Eda Ranu submitted that an independent financial assessment conducted by the IPBC suggests that it is capable to sustain the loan on a concessional basis but may not do so if the loan were to be sourced on commercial terms.

Eda Ranu suggests that if the Commission sees a need to amend the price path downward, then the Commission should freeze the CPI and the X factor component of the sewerage services only for the remainder of the regulatory period but not the pricing components relating to reticulated water. Eda Ranu asserts that such is the case since the capital expenditure on the PSSUP is highly subsidised by income earned from the water rates as from the total charges of Eda Ranu, water constitutes about 80% of the total charges whilst sewerage generates only 20% of total charges.

As part of its submission, Eda Ranu further points out that its non-water revenue is about 20% and it sells less than 50% of the total water produced and sold and the remainder is lost through villages, settlements, illegal connections and leakages through the system. Furthermore, given that the current tariff applied to sewerage is very minimal compared to water, Eda Ranu contends that any downward adjustment would adversely affect Eda Ranu's overall financial position.

In addition, PNG Waterboard who is also in the business of providing water and sewerage services in certain parts of the country supports Eda Ranu that there are legitimate factors causing the delay and this delay is beyond Eda Ranu's control. It further suggests that while the Commission may consider penalties to be applied to Eda Ranu for the non-implementation of the PSSUP, considerations should also be given to other priority projects in which the PSSUP funds could be diverted to these projects.

Therefore, in view of the comments stated above and given that the PSSUP is a major capital expenditure project which Eda Ranu will embark to undertake and regardless of the delay's being encountered, Eda Ranu maintains its view that the Commission should not consider changing the current price path but to allow it to remain in place for the remaining period of the current regulatory price path.

## 3.5 Discussion

The relevant issue of pertinence which the Commission considered in its Draft Report was whether or not Eda Ranu has incurred or partly incurred the capital expenditure it committed to undertake under the existing price path. Considerations were also extended to establish the likelihood of Eda Ranu's capacity to incur the full amount of the capital expenditure within the remaining period of the price path or otherwise.

The Commission then considered the available options it has under the current circumstances with regards to the pricing arrangements for the remainder of the price path with a view towards obtaining a balance between Eda Ranu's commercial interests (including securing and servicing the concessional loan to undertake the PSSUP) and the welfare of the consumers of water and sewerage services provided by Eda Ranu.

As part of the Commission's draft determination on the type of option to apply to Eda Ranu's current price path with regards to the PSSUP capital expenditure, the Commission has considered the following issues;

- Reasons for the PSSUP delay.
- The likelihood of PSSUP being implemented within the remaining regulatory period.
- Suggested approach the Commission would take on dealing with the revenues collected which relate to the deferred PSSUP capital expenditure.

### 3.5.1 Reasons for the PSSUP delay

The Commission notes that one of the major factors which is restricting Eda Ranu's ability to incur the capital expenditure on the PSSUP is the delay experienced in the negotiation of the offshore concessional loan. Both Eda Ranu and its shareholder, IPBC, are adamant the loan will be agreed to and the funds will be sourced in time to implement the PSSUP within the regulatory period.

Pursuant to NEC Decision No. 87/2007, an Inter-Agency Working Committee has been formed and tasked to facilitate the processes involved in securing the offshore concessional loan. It was submitted to the Commission that the loan arrangements will be finalised by end October 2007, but to the date of this final determination, the Commission has not seen any evidence that the loan arrangements have been finalised. While the Commission accepts the loan arrangements will most likely proceed, its concerns over further delays for the project remain.

### 3.5.2 Likelihood of PSSUP implementation

The Commission notes from Eda Ranu's submission that the delay in implementing the PSSUP is beyond Eda Ranu's control as the terms of the

loan are still being negotiated by the key stakeholders with the international financier, JBIC.

In this circumstance where the PSSUP has not been implemented as planned and given the request made by the Minister for a review of the capital expenditure associated with the project, it is imperative for the Commission to be advised as to the indicative commencement of the major expenditures for the project. In addressing this matter, Eda Ranu submitted that it has received political backing that the government will support the PSSUP and it is expected to be implemented by the end of this year. Independent Public Business Corporation (“IPBC”) also supported Eda Ranu’s view that arrangements are underway for the implementation of the PSSUP which is expected to be finalised by end of October 2007. The Commission notes both IPBC and Eda Ranu’s optimism on the date of implementation of the PSSUP, however this would be subject to agreement within the government agencies tasked to discuss and firm up the terms of the loan agreement with the international financing institution. The PNG Waterboard, however stated that the process of finalising the loan terms, securing funding and implementation of such projects take much longer period than expected.

Apart from stating that the delay is beyond its control and that loan negotiation are still on-going, Eda Ranu has not provided a detailed update on what has been achieved and what is yet to be done as this will give an indication as to when will be the indicative time of implementation. Negotiation between Eda Ranu, relevant government departments and the Japanese Bank of International Corporation on loan repayment arrangement is still on-going and at this stage there has been no agreement reached as yet. In addition, the technical aspect of the PSSUP may also take awhile to be finalised.

The Commission agrees with National Research Institute’s (“NRI”) suggestion that the likelihood and Eda Ranu’s financial capacity to fully implement the capital commitments on the PSSUP need to be considered before any downward adjustments are made. Nonetheless, the Commission further notes that a comprehensive review of the current pricing arrangements will be undertaken in 2009 in which any inaction by Eda Ranu can be addressed. This is one of the suggestions provided in NRI’s submission. However for the purpose of this review and consistent with its legislated roles, the Commission will need to make a decision as to whether Eda Ranu will access the offshore loan in time to undertake part or all of the capital works on the PSSUP before the end of 2009 and whether the actual capital expenditure will be incurred within the remaining period of the price path, or be extended into the following regulatory period.

While both Eda Ranu and IPBC contend that the project will be implemented towards the end of this year, the forward capital expenditure for the remainder of the regulatory period provided by Eda Ranu in its submission is significantly less than what has been initially projected and this would indicate that all of the PSSUP capital expenditure may not have been included in the forward capital expenditure. Also, at the time of

preparation of this Final Report, Eda Ranu has not provided an update to the Commission that the loan is in place and the major part of the project has commenced and neither Eda Ranu nor IPBC challenged the Commission's draft decision that the likelihood of the PSSUP being implemented within the next two years of the current regulatory period is not possible but may continue into the next regulatory period.

Therefore, the Commission concludes that while Eda Ranu may incur minimal expenses for the PSSUP during the last phase of the current regulatory period, the full expense and extent of the project could possibly be incurred in the next regulatory period.

### 3.5.3 Suggested approaches

In response to the Issues Paper, the Commission received submissions from Eda Ranu, National Research Institute and PNG Waterboard on the type of option for the Commission to consider in view of the deferred PSSUP capital expenditure. IPBC on the other hand has not provided comments on this issue.

The options provided to the Commission in the submissions are set out below.

#### (a) Price path where Eda Ranu fully incurs the capital expenditure

Firstly, the Commission considers one of options provided by the NRI that if Eda Ranu fully incurred the PSSUP capital expenditure, the price path should remain unchanged. It should be noted that the review stems from the main issue as to whether Eda Ranu had incurred the expected capital expenditure as captured in the price path. Eda Ranu advised that the project is yet to be fully implemented, thus confirming in its submission that it has not fully incurred the capital expenditure. Hence, the Commission does not consider this option as a likely outcome of the review.

Fundamentally, consumers should not be asked to pay for services which have yet to be delivered, and where there is some risk (albeit small) that the project will not proceed as planned. This is supported by Sections 21 (2A) (a), (b) and (i) of the Act, which suggests efficient costs should be recovered but market power should not be misused, to the detriment of economic and social outcomes.

#### (b) Price Path where Eda Ranu does not fully incur the capital expenditure

Under this option, it has been proposed that no changes be made to the current price path despite Eda Ranu partly incurring some capital costs towards the sewerage project. To advance this option, it is important to compare the actual capital expenditure against the expected capital expenditure in the current price path

Submissions were made by NRI and PNG Waterboard, that the current price path should remain and be reviewed at the end of the current price path if Eda Ranu partly incurs the capital expenditure. Further comments were made that while Eda Ranu has not implemented the PSSUP, projected revenue generated for the PSSUP should be diverted to other priority projects. To form a view on this matter, the Commission assessed the extent of actual capital expenditure incurred against the expected capital expenditure, and considered whether or not the alternative projects are necessary and are efficiently delivered.

In its Draft Report, the Commission considered that it would not be prudent to divert funding to other alternative priority areas or projects as the PSSUP is a major Government initiative aimed at improving the sewerage infrastructure and to do so, would seriously derail Eda Ranu's ability to finance the loan if the project is implemented at a later date. Secondly, the Commission has factored the cost of this project in the current price and of which the forecasted capital expenditure were rolled into Eda Ranu asset base on which it realises its return on capital as well as recouping depreciation through its tariffs. Also, the Commission would need to re-look in-detail at the alternative projects which could bring benefits to consumers and hence legitimately be part of the regulatory asset base and also look at other variables (for example operating & maintenance expenditure which would not longer relate to the PSSUP) which would not be identical to the current price path. The time frame allowed under the Act for this Review does not allow such a detailed review process to be undertaken. Therefore, it is incumbent on Eda Ranu to undertake this project, and for any alternative capital expenditure to be reviewed for inclusion into the regulatory asset base at the detailed review planned for 2009, prior to the next regulatory period.

From its assessment of the capital expenditure on the PSSUP, the Commission is concerned that the capital expenditure is not substantially incurred to a level where the Commission can consider allowing the price path to remain without alteration for 2008 and 2009. In analysing the actual capital expenditure in Table 5 against those in Table 3, the Commission notes that Eda Ranu in 2004 incurred more capital costs than what was captured in the price path. However from 2005 to mid 2007, capital costs incurred by Eda Ranu were much lower than expected capital expenditures. From the analysis of the above tables, Eda Ranu has incurred only 18% of the total capital expenditure originally forecast.

Also, when taking into consideration capital costs of other projects undertaken by Eda Ranu to verify PNG Waterboard's comments that consideration should be given to alternative projects, the Commission finds that capital costs of other water projects do not match the

capital expenditure earmarked for the PSSUP. The sewerage project is placed highly in terms of priority both by Eda Ranu and the Government therefore it would not be prudent to divert such capital costs to other non-priority projects. Generally, Eda Ranu underspent the forward capital expenditure in the first two and half years of the current regulatory period.

Eda Ranu strongly argues that the Commission should not amend the current price path as its decision to adjust prices down would have serious financial implications on the project. In addition, Eda Ranu points out to the Commission that in the first two years of the regulatory period, the Commission gave significant upward adjustments to tariffs to improve the financial performance of Eda Ranu and the decision to amend the prices downward now would indicate a shift in the trend of the price adjustments from the last 2 years.

It should be noted that the Commission allowed these significant price adjustments at the start of the regulatory period to place Eda Ranu in a sound financial footing, thus allowing the entity to improve and provide efficient services going forward. It has also allowed Eda Ranu and the government the opportunity to explore the opportunity for concessional project financing for the PSSUP, which might otherwise have been unavailable.

Under its earlier decision for the 2005 to 2009 regulatory period, the Commission has expected Eda Ranu to be able to return a profit over each year of the current regulatory period including the assumption that the capital expenditure for the PSSUP would occur. Where this capital expenditure did not occur, there should have been an over recovery of capital which was not spent and Eda Ranu's profitability should have risen. However, the actual position has been that Eda Ranu's costs have risen to absorb this over recovery. From the information provided in the submission, Eda Ranu's profit was lower than what would have otherwise been expected. This is despite the lower capital costs incurred over the regulatory period and despite the Commission's allowance for significant price increases. This causes the Commission concern as it suggests a level of inefficiency in Eda Ranu's operations.

Eda Ranu further supports its proposal not to amend the prices by submitting that the capital expenditure on the PSSUP is highly subsidised by income earned from the water rates and only 20% of water produced is charged to sewerage income using the current tariff structure. Eda Ranu then claims that as such the impact of adjusting the current tariff due to non-implementation of the PSSUP would have no effect on its income base as 8% of water produced is charged as sewerage rates. Contrary to its proposal not to amend the price path, Eda Ranu submits that if the Commission assess a need to amend the price path, then the Commission should freeze the CPI and the X factor for the sewerage only for the remainder of the regulatory period.

It is imperative to note that the PSSUP forms a larger component of the total capital expenditure. The capital expenditure for water and sewerage are combined and spread over the five year period and the calculation of the average asset base and the return on asset flow on from the total capital expenditure. The return on asset for water and the X factor are derived from the PSSUP capital expenditure as well. The PSSUP has a significant bearing on both water and sewerage rates and would affect the income base of water as much as it affects sewerage income base, hence the suggestion to freeze the CPI and X factor for sewerage only for the remainder of the regulatory period is not a possible outcome. Effectively, not enough information on the separate asset bases of Eda Ranu's water and sewerage assets is available to support an analysis to see whether this approach is reasonable. Such information might be available for the 2009 detailed review, and the Commission would encourage Eda Ranu to submit further detailed information on this issue at that time.

Under the current pricing arrangements, water and sewerage services provided by Eda Ranu are bundled and priced accordingly. Therefore the Commission does not agree with Eda Ranu's suggestion that the Commission should only adjust the sewerage prices and not water quite simply because it is impossible to do that under the current pricing arrangements. Furthermore, whilst sewerage charges may reflect only 20% of the total charges levied by Eda Ranu, the capital expenditure attributable to sewerage infrastructure constitutes a significant portion of Eda Ranu's RAB under the current price path. Hence, the current prices are driven predominantly by the forward capital expenditure on the PSSUP. Therefore, even if it was possible to isolate sewerage charges, the sewerage RAB would need to be re-adjusted accordingly, hence major adjustments to the current price path would be inevitable.

On the issue of non-revenue water, Eda Ranu submits that its non-water revenue is about 20% and it sells less than 50% of the total water produced and delivered, and the remainder is lost through un-metered off-take for villages and settlements and from leakages through the system. It further submits that given that the current tariff applied to sewerage is very minimal, any price decrease would badly affect Eda Ranu's financial position.

The Commission also notes Eda Ranu's concerns relating to leakages, uncollectible debts and water loss in villages and settlements. Under the current circumstances in PNG and more particularly with the law and order situation, collection of debt and related actions in settlements and villages would pose significant risk to the employees of Eda Ranu and is potentially an issue that will have to be carefully revisited in the next major review in 2009. Nonetheless, with respect to bad debts and leakages, the Commission encourages Eda Ranu to use its best endeavours to fix the leakages and pursue all available

means to strengthen and improve its debt collection activities. The Commission considers that these are management issues and are within the control and influence of the management.

Having considered all arguments put forward, the Commission proposed in its draft determination that it will amend the current price path to reflect Eda Ranu's current situation where there has been underspent of capital expenditure in relation to the PSSUP. There have been no comments or submissions on the Commission's proposal on this draft determination which have sufficient weight to sway the Commission's away from that described in its draft determination. Therefore, the Commission's final decision is to amend the initial price path of Eda Ranu at CPI-2.5% for the remainder of the current regulatory period. The reasons for choosing an X Factor of -2.5% are discussed in the following chapter of this Final Report.

## 4. OPTIONS ON PRICE ADJUSTMENT

Having decided to amend the price path of Eda Ranu for the remainder of the current regulatory period, the Commission has considered the available options to reflect Eda Ranu's under-expenditure and current state of the project whilst ensuring that consumers are charged a fair and reasonable rates as well as ensuring that Eda Ranu continues to provide the required services, and proceeds with the PSSUP.

### 4.1 Summary of Options

From the information provided in Eda Ranu's submission, the Commission identified five (5) options and these options were discussed in detail in the Draft Report. A summary of these five options are:

- Option A: CPI-29% -  
Based on actual capex for 2004 to June 2007 and NPV smoothing for 2008 and 2009.
- Option B: CPI-18% -  
Based on actual capex and actual opex for 2004 to June 2007 and NPV smoothing for 2008 and 2009.
- Option C: CPI-8% -  
Based on actual capex and actual opex for 2004 to June 2007 and forecast opex at historical average or best estimate and NPV smoothing for 2008 and 2009.
- Option D: CPI-2.5% -  
Based on an estimate of revenue reduction which could be made up through additional revenue collections through a reduction in losses of approximately 2% over 2008 and 2009.
- Option E: CPI+0% -  
Based on zero real increases in tariffs for 2008 and 2009, above the tariffs approved for 2007.

In identifying Options A, B, C, and E, the Commission considered the capital expenditure, operating expenses and also tested the veracity and reasonableness of some of the expenditures which exhibit spikes which are not moving in a uniform manner. The analysis of these considerations gives a specific price path for each of these options. The Commission has proposed not to allow Eda Ranu to adopt Options A, B and C for reasons including the following;

- Such huge savings which have been made by Eda Ranu as a result of underspent of capex is unavailable to apply against the PSSUP at the moment because there is some evidence of overspend in operating & maintenance expenditure;

- Eda Ranu is still in the process of securing the loan and an adjustment of allowed prices under these severe price caps could seriously impact the loan-negotiation process;
- There is some evidence that Eda Ranu has retained some of its surplus cash which can be used to offset some of the loan once the PSSUP proceed, and hence returning all these over-recovered costs to consumers through price reductions may not be necessary, or prudent.
- A price increase followed by a price reduction and followed by a potential price increase (in 2010 and the following years once the PSSUP is underway), does not provide stability of prices and is counter to good regulatory practice in minimising social impact of pricing decisions.

The Commission also proposed not to allow Eda Ranu to adopt the price path of Option E for the following reasons:

- From a financial point of view Eda Ranu does not need excessive surplus cash and its existence could be an encouragement to waste money on unnecessary projects, or to spend in an inefficient manner (reference the opex in 2005 which has risen significantly from forecasts in 2004).
- Eda Ranu appears to have potentially wasted, or at least misapplied, much of the free cash flows provided in the first two years of the current regulatory period and the Commission has concern that this could continue into the future.
- There is no price pressure on Eda Ranu, and hence a lower incentive for additional efficiency improvements, such as through a further reduction of 'losses', both in receivables, collections, further meter roll-out and in repairing leakages.
- There is limited additional pressure to undertake and complete the PSSUP in the short-term, where there is an obvious consumer need.
- Consumers should not have to pay for services they do not yet receive, nor should they be required to pre-fund assets when the regulated entity has the financial ability to fund these itself.

The option which the Commission considered appropriate to apply to Eda Ranu for the remainder of the current regulatory period is Option D: CPI-2.5%. Details of this option are discussed in the following section.

The Commission has received submissions from Eda Ranu and PNG Waterboard and both have generally accepted the Option D: CPI-2.5%.

#### 4.2. ADJUSTED PRICE PATH - OPTION D: CPI-2.5%

In developing the current price path back then in 2004, the Commission employed a building block approach to determine Eda Ranu's revenue requirement which comprised of the following aspect<sup>2</sup>;

- A return on capital invested in the network;
- A return of capital invested in the network through an allowance for depreciation; and
- The efficiency operating costs of the business.

These aspects of the building block approach have been taken into consideration of the discussions of the above options.

In the current price determination (made in 2004), the Commission made a very generous allowance for Eda Ranu to recover specific capital cost associated with the PSSUP whilst allowing Eda Ranu to improve its operating costs of the business. The Commission expected the capital identified in the Final Report of August 2004 to be invested in the network, however, over the period Eda Ranu has underspent the expected capital expenditures and over spent the expected operating & maintenance costs.

So while the Commission would have expected Eda Ranu to return a profit over each year of the current regulatory period as an adjustment for the over-recovery of capital which it did not spend, the actual position has been that Eda Ranu's costs have risen to the extent that expenditures have almost absorbed this over recovery.

The Commission has cited a number of items such as significant increases in salary levels which are not directly related to the PSSUP thus further increasing Eda Ranu's cost of operations. The Commission has sought information from Eda Ranu on the cost drivers of this increase and the information provided was not sufficient to clearly substantiate the reasons for this increase. Indeed during the limited period of this review, and given the scope of the reference provided by the Minister of Treasury, such analysis is not possible. This analysis is more appropriately to be undertaken during the more detailed regulatory reset process scheduled for 2009, prior to the next regulatory period.

The Commission is concerned that any changes in operational & maintenance expenses should come after full and rigorous analysis allowed in a regulatory reset. The Commission understands that forecasts of costs are likely to vary from actual expenditure, however, it would expect that Eda Ranu would have been able to more accurately budget (and forecast) its costs at least within the 18 months window between when the Commission was undertaking its previous decision in 2004 and the actual expenditures in the 2005 year.

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<sup>2</sup> Note that the analysis occurs on a pre-tax basis and uses a pre-tax WACC.

Hence while there are strong reasons why a cost based approach could be adopted at this time by the Commission adopting either of Options A, B or C, which is supported by Section 21 (2A) (b) of the PR Act, there are countervailing issues to be balanced when considering Sections 21 (2A) (e) and (g) of the PR Act, where there is an evident need for capital investment to be supported in providing better sewerage treatment facilities in order for public health reasons and for improved service quality.

The Commission is also of the view that it cannot support a continuation of the current price path given the underspending in terms of capital expenditure. The Commission must place some emphasis on the cost of providing services as required by Section 21 (2A) (b) of the PR Act. Hence a price path of CPI+5% cannot be considered.

However, at the same time the Commission is reluctant to support the operating & maintenance cost increases associated with Eda Ranu's actual operations from 2005 to June 2007. The Commission must place some emphasis on cost efficiency improvements as required by Section 21 (2A) (c) of the PR Act. Hence, the price path provided by Option E: CPI+0% is also not supportable as it does not provide sufficient incentives for cost efficiency improvements.

As such the Commission sought an Option which lay between the Option C: CPI-8% and Option E: CPI-0%. An option between these two cost based approaches was required to recognise the balance in the objectives of Section 21 (2A) of the PR Act.

In arriving at this option, the Commission has been mindful of a number of matters, particularly the extent of cost increases over the regulatory period, the need for efficiency incentives and the need to continue to support the investment initiative being pursued by Eda Ranu with support from the government shareholder.

The Option D: CPI-2.5%, in the Commission's view, fulfils the balance of objectives required under Section 21 (2A) of the PR Act, at this time. The Commission estimated the value of minus 2.5% by increasing the revenue growth assumption used for its 2004 decision (originally 2.75% pa) for the 2008 and 2009 years by an amount which appears reasonable to achieve through reducing the current losses. Where revenues are recovered from approximately 47.5% of the customer base, rather than the current assumed 40% of the customer base at the 2007 prices, the absolute revenue reduction through using CPI-2.5% can be offset in present value terms. This would allow the additional collection of approximately K5.4m in 2008 and K11.2m in 2009<sup>3</sup>.

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<sup>3</sup> The Commission notes that the numbers quoted in its draft determination of a 5% increase in revenue collection on page 38, were based on this collection being achieved over 2007 through 2009. With adjusted collections for 2008 and 2009, the Commission believes a

The Commission notes the reduction in losses assumed possible still does not require Eda Ranu to collect its revenues from more than 50% of its customer base. The Commission flags that for the regulatory reset at the end of the current regulatory period, it will be focusing on losses and how these might be further reduced to assist Eda Ranu's revenue base.

As such, the Commission has decided for this final determination to adjust Eda Ranu prices by CPI-2.5% over the next two years, in line with its draft determination, for reasons including the following:

- While Eda Ranu is still in the process of securing the loan, an adjustment of this extent should not seriously impact the loan-negotiation process, because the revenue reductions are small and to some extent balance with the continued potential over-recovery of revenue due to the slow ramp-up of the PSSUP project (against the originally forecast capex). Also the detailed regulatory reset in 2009, prior to the start of the next regulatory period, will allow the Commission the opportunity to fine tune the revenue (and price) path to accommodate the economically efficient costs which arise from the PSSUP project and other capex undertaken by Eda Ranu.
- There is the opportunity for Eda Ranu to retain further surplus cash under this scenario, as the PSSUP project is unlikely to ramp-up immediately. This additional surplus cash can be used to off-set some of the loan once the PSSUP project proceeds and hence returning all of these over-recovered costs to consumers may not be necessary.
- A price increase (in 2005 and 2006) followed by a lower price reduction (2.5% in real terms) and followed by a potential price increase (in 2010 and the following years once the PSSUP is underway), while not stable provides less volatility in prices than In Options, A, B or C. The Commission believes that this level of price change is a reasonable balance between the financial needs of the Eda Ranu and the consumer benefit of not paying excessive prices for the utility services provided.
- There are opportunities for Eda Ranu to offset the price pressure leading to reduced revenues (and hence profitability) from a CPI-2.5% price path, by slightly increasing the percentage of recoverable water deliveries from the current 40%. This approach provides some incentives to improve its losses from delivered water without placing undue pressure of the finalisation of the project finance for the PSSUP project.
- This approach is unlikely to place financial strain on Eda Ranu, particularly when (rather than if) it proceeds to implement the PSSUP.

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reasonable reduction in losses will allow Eda Ranu to recover the revenue path originally provided by the Commission in 2004.

While noting that this price path of CPI-2.5% will have an impact on reducing Eda Ranu's prices by approximately 7.5% in real terms, the Commission suggests that Eda Ranu employ strategies to ensure that it is able to retain both its profitability and revenue. This would include its ability to improve its collection of outstanding debts, improvement to leakages and illegal connections particularly from the non-revenue sector.

In its submission to the Draft Report, Eda Ranu assures the Commission that its Management is looking at avenues to reduce costs and improve strategies to collect more revenues from the areas which the Commission has identified. The Commission encourages Eda Ranu to pursue these measures with vigour to help improve its cash flow and hence its profitability.

Having considered the above issues, the final determination for Eda Ranu for the remainder of the current regulatory period is CPI-2.5%.

#### 4.3. SURPLUS CASH FROM ADJUSTED PRICE PATH - OPTION D: CPI-2.5%

The Commission has estimated, that the CPI-2.5% price path will allow Eda Ranu to collect additional revenues of K52.2m during 2008 and 2009, above its costs forecast at 2004. While this estimate is based on old forecast data and has not been updated for current opex forecasts, it does include the capex forecasts provided by Eda Ranu in its submissions to the Commission in the current review.

This surplus revenue is without the additional revenue Eda Ranu can achieve by focusing on a reduction in losses as discussed above in section 4.3 of this report.

Given the uncertainties in this estimate, the Commission will seek to observe a cash surplus of at least K40m when it undertakes its revenue reset process of Eda Ranu during 2009 for the following regulatory period commencing 1 January 2010.

Eda Ranu should have a strong justification for the Commission of where these surplus funds have been utilised, where they are not available to offset the loan requirements for the PSSUP.

## 5. SUMMARY OF FINAL DETERMINATIONS

This section outlines the Commission's final determinations in light of Eda Ranu's inability to incur substantial PSSUP capital expenditure during the first half of the current regulatory period, but there is likelihood of the PSSUP being partly implemented during the remainder of the current regulatory period. The final amended price path for the remainder of the current regulatory period, is a CPI-2.5% price path.

### 5.1 Likelihood of implementation within the regulatory period

The Commission understands that the PSSUP will not be substantially implemented until the loan is secured. The Commission also understands that the Government is supportive of this project. However the terms of the loan are subject to agreement between the State, Eda Ranu and its stakeholders and these are yet to be finalised. It is obvious that failure to reach that agreement at an early stage will most probably result in a further delay in the implementation of the PSSUP.

Nonetheless, the Commission believes there is significant potential for partial implementation of the PSSUP project during the current regulatory period.

As such the Commission prefers an approach which continues to recognise that the project will proceed. Severe options such as Options A and B explored in its draft determination and above in chapter 4, would likely prove onerous to the regulated entity. However, the Commission indicates now that if the PSSUP project is not substantially completed by 2009, it would very likely take a different view over the severity of complete removal of this asset from the RAB and hence the forward price path for the regulatory period commencing 2010.

### 5.2 Final Price Direction

The final price path direction is CPI-2.5% from 1<sup>st</sup> January 2008 to 31<sup>st</sup> December 2009. The maximum average revenue allowed by the Commission under the new price path is consistent with the formulae in the 2004 Final Report. Eda Ranu must set prices for year  $t$  such that the reasonably forecast maximum average revenue (MAR) per kilolitre received from the provision of water (MAR Water <sub>$t$</sub> ) and sewerage (MAR Sewerage <sub>$t$</sub> ) services comply with the following formulae:

- $MAR\ Water_t \leq (1+(CPI_t + X_t))*MAR\ Water_{t-1}$
- $MAR\ Sewerage_t \leq (1+(CPI_t + X_t))*MAR\ Sewerage_{t-1}$

Where:

- t is the year in which the tariffs are being set;
- MAR Water<sub>t-1</sub> and MAR Sewerage<sub>t-1</sub> are the allowed (not actual) MAR Water and MAR sewerage calculated for year t-1;
- CPI<sub>t</sub> (excluding tobacco, alcohol and bettelnut) published by the National Statistical Office for the 12 month period ending on 30 June in Regulatory Year is calculated as follows:

$$CPI_t = \frac{CPI\ March_{t-1} + CPI\ June_{t-1} + CPI\ Sep_{t-2} + CPI\ Dec_{t-2}}{CPI\ March_{t-2} + CPI\ June_{t-2} + CPI\ Sep_{t-3} + CPI\ Dec_{t-3}} - 1$$

; and

- X<sub>t</sub> is as follows:

Year t	X <sub>t</sub>
2008	-2.5%
2009	-2.5%

All other requirements shall be consistent with the previous final price path direction outlined in the 2004 determination.

### 5.3 Summary of Reasons

Given the situation regarding the underspend of the capital expenditure program outlined in Chapter 3 the Commission has little choice but to amend the price path for Eda Ranu. This is due to the regulatory mechanism employed by the Commission and Eda Ranu's response to the over recovery of revenue under this mechanism. Embedded in the Commission's original decision to include the capital investment of K245 million for a new sewer and treatment plant was the recognition that Eda Ranu and not the Commission, better understood the needs of consumers. There has been not only a failure by Eda Ranu to undertake the capital works program but also there have been increased costs across the business which appear to have limited justification. The Commission is concerned that the increased costs of Eda Ranu has been a direct result of the allowances made in the regulatory price path by the Commission for the PSSUP project and that this underspent capital expenditure has possibly been unreasonably diverted to less efficient spending programs.

This project appears likely to be approved for delivery within the short-term and is likely to progress within this regulatory period. As such the Commission will not remove all of the capital expenditure from the regulatory asset base in this regulatory period (as would occur under Option A, B and C). However, it will remove a "real" percentage of the previously allowed revenue path as it is clear the regulatory settings were possibly too generous to Eda Ranu, to the detriment of consumers.

Under the Commission's approach to regulation which is based on providing Eda Ranu the incentive to invest and at the same time reduce costs

efficiently, the Commission would have preferred not to take this action which it notes is necessarily fairly heavy handed. Had the Commission seen evidence that Eda Ranu was able to use the underspend to its advantage by making appropriate provision for this project (setting the funds aside and controlling its other operational & maintenance expenditures) the Commission would have been in a position to consider making a continuing allowance for this recovery of future investment in this regulatory period.

The Commission's decision to alter the price path mid way through the regulatory period is an unusual step for price control regulation<sup>4</sup> and has not been taken lightly by the Commission. As such the Commission is imposing a series of additional measures to ensure that Eda Ranu puts in place reasonable management process to address the Commission's concerns. If these measures are adopted by Eda Ranu it is unlikely to foresee a repeat of this circumstance in subsequent regulatory decisions.

The Commission will reduce Eda Ranu's tariffs such that they be adjusted annually over the last two years of the current regulatory period based on CPI-2.5% in line with the considerations outlined section 4.2 above. The resulting reduction in Eda Ranu's revenue and ultimately profit levels will need to be actively managed by the Management of Eda Ranu through two policy measures:

- A reduction of costs; and
- An increase in the revenue collected by Eda Ranu, but within the price path.

#### 5.4 Additional Measures

##### Cost reduction

First, the Commission has decided to place an additional cap on Eda Ranu's operating costs over the final two years of the regulatory period. That is while Eda Ranu will continue to incur costs, the Commission will place a freeze on all costs for the next price review. The Commission will be monitoring Eda Ranu's performance over the remaining years of the regulatory price path and will only consider nominal cost changes at the time of the next regulatory reset decision where Eda Ranu is able to demonstrate that there has been a clear external cost driver which has resulted in a real price change, but where Eda Ranu management has been unable to influence the outcome to reduce the cost increases.

At the time that Eda Ranu presents its case for change in the prices to the Commission (during early 2009 or as otherwise scheduled) it must include the following in its delivery of cost data:

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<sup>4</sup> The only other instance of an early opening of a regulatory price control arrangement was in the UK under Littlechild, early in the mid 1980's, where the data provided to the regulator at the time of the reset was significantly flawed.

- Clearly defined cost drivers by opex and capex item;
- Evidence of cost increases and measures taken to reduce the impact of these costs increases - including open and competitive tendering processes, analysis of competing cost options and proof of selection of the minimum cost/benefit outcome, and clear examination of competing technical solutions;
- Evidence of productivity increases over the existing regulatory period and proposed productivity measures for the forthcoming regulatory period; and
- Rationale for all wages increases including payments to Board Members and executive staff which are over and above the percentage change in the average national wage, starting with a benchmark at the beginning of 2005.

#### Increasing revenue collection

The second area the Commission believes Eda Ranu should place considerable interest in increasing its collection of revenue from the 60% of consumers currently not paying for water or sewerage. While recognising the need for a Universal Service Obligation (USO), the Commission has concerns whereby Eda Ranu continues to charge the cost of water and sewerage services supplied to the non-revenue sector to the 40% of the population who are in a position to be invoiced and are able to pay.

The price cap regulation which the Commission has imposed should provide Eda Ranu with the appropriate incentive to collect revenues from the group of customers receiving services who currently do not pay (or at least to reduce the percentage of customers who do not pay for services over time), however, the Commission has not seen evidence of improvement in the collection of revenue from this category of customers.

The Commission estimates that the 2.5% per annum reductions in prices will reduce Eda Ranu's revenue by approximately K15million over two years. At the same time an increase in collections of approximately 7.5% in the number of people paying would be sufficient for Eda Ranu to continue to collect this revenue removed by the Commission's draft determination. This would re-establish the revenue path and profitability which Eda Ranu was provided in the Commission's original 2004 decision. The Commission considers that this is an appropriate approach as it provides a further incentive on Eda Ranu to continue to decrease the level of the non-financial embedded USO.

Should Eda Ranu undertake both programs successfully the Commission estimates that Eda Ranu will be able to increase its revenue and profit levels.

In addition, the Commission believes that even where Option D is followed (as described in chapter 4 above), Eda Ranu will be able to generate free cash flows in excess of the regulated return allowed in the Commission's original 2004 decision. As such the Commission, at the next detailed

regulatory reset in 2009, will expect to see at least K40million additional cash collections either in the cash accounts of Eda Ranu or to have had these cash flows applied to the efficient delivery of the PSSUP project and/or the reduction in the draw-down of the concessional loan for the PSSUP project. The use of this additional cash flow will need to be demonstrated as prudent and efficient to the Commission during the next regulatory reset.

## 6. APPENDICES

### Appendix A: Minister's Application



**MINISTRY OF TREASURY**  
**OFFICE OF THE MINISTER**

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PO Box 542, Waigani, NCD, Papua New Guinea  
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3<sup>rd</sup> July 2007

Mr. Thomas Abe  
The Commissioner  
Independent Consumer and Competition Commission  
P.O.Box 6394  
**BOROKO**  
National Capital District

Dear Mr. Abe,

**SUB: MINISTERIAL REQUEST TO REVIEW CURRENT PRICING ARRANGEMENT FOR EDA RANU**

I am writing to seek a review, pursuant to section 25A(2) of the *Prices Regulation Act*, of the price direction applicable to Eda Ranu.

I note that section 25A (3) envisages that a request for review of a pricing direction include reasons for seeking a review and a proposed maximum price. I provide below the reasons for seeking such a review.

During the pricing review on water and sewerage services provided by Eda Ranu in 2004, in accordance with the section 25A (6) of the *Price Regulation Act*, a price path was set which allowed Eda Ranu to earn certain maximum average revenues during the period 2005 to 2009. The increment in the tariff rate recommended by the commission during the review was factored into a five year price direction which began on 1<sup>st</sup> of January 2005. The final price path allows Eda Ranu to recover the efficient operating costs, to meet the costs of capital and the costs for depreciation. The tariff increase was granted in anticipation that the capital and operational costs would be incurred commencing from 2005 and recovered through the regulated price path for Eda Ranu, which, in turn, would be obliged to furnish the service envisaged by the capital expenditure incorporated into the price path calculations.

Notwithstanding the tariff increase granted, I have noted that the service has not been rendered to customers as intended during the last two and half years. During the period since 1<sup>st</sup> January 2005, Eda Ranu has taken the money it generated in form of increased tariff rates without undertaking the capital works and expenditure on the sewerage system upgrade project which was factored into its price path.

As to suggesting a proposed maximum price, I note that the provision of sewerage services is not the subject of a specific price, but, rather, the price direction stipulates a maximum average price path for the provision of both water and sewerage services. Hence, I am unable to suggest a maximum price. Furthermore, the amount of adjustment applicable to the basis for seeking the review is a matter most appropriately quantified by your Commission and, therefore, I do not wish to attempt to quantify it. In summary, I seek a downward adjustment of the maximum average annual revenues to reflect the failure of Eda Ranu to undertake the capital works and expenditure, more particularly the sewerage system upgrade project, which have been factored into its price path, the subject of the relevant price direction.

Thus, pursuant to the section 25A (2) of the *Price Regulation Act*, I hereby request the ICCC to review the current price direction for Eda Ranu, taking account of its failure to provide services in accordance with the capital expenditure envisaged in its price path.

Yours sincerely



**RABBIE L. NAMALIU, CSM KCMG MP**  
Minister for Treasury

## Appendix B: Section 25(A) of Prices Regulations Act (Amended)

When making an order under Subsection (1), the Commission shall have regard to

- (a) the need to protect consumers and users of the declared goods or services from misuse of market power in terms of prices, pricing policies (including policies relating to the level of structure of prices) and the standard of the declared goods or services; and
- (b) the cost of making, producing or supplying the declared goods or services; and
- (c) the desirability of encouraging greater efficiency in relation to making, producing or supplying the declared goods or services; and
- (d) the need to ensure an appropriate rate of return on any investment in relation to the declared goods or services; and
- (e) the borrowing, capital and cash flow requirements of persons making, producing or supplying the declared goods or services; and
- (f) considerations of demand management and least-cost planning; and
- (g) existing standards of quality, reliability and safety of the declared goods or services, and the desirability of encouraging improvements in those standards; and
- (h) the effect any proposed order on general prices inflation over the medium term; and
- (i) the economic and social impact of any proposed order; and
- (j) any other matters the Commission considers relevant.

## Appendix C: Respondents to Issues Paper & Draft Report

### *Respondents to Issues Paper*

1. Eda Ranu
2. Independent Public Business Corporation
3. National Research Institute
4. PNG Waterboard

### *Respondents to Draft Report*

1. Eda Ranu
2. PNG Waterboard

## Appendix D: Water and Sewerage Prices Order 2008

In its *“Water and Sewerage Review - Final Report”* dated 25 November 2004, the Commission imposed a maximum average revenue (“MAR”) form of price control on Eda Ranu. The form of the MAR previously set is described in the following paragraphs.

### Prior MAR for 2005 to 2009

The MAR for 2005 to 2009 was set using the following MAR constraint:

#### *Previous Adjustment Formula*

$$\begin{aligned}\Delta\text{MAR}_{t+1} &= (\Delta\text{CPI}_t + 0.11) \text{ for } t+1 = 2005; \\ \Delta\text{MAR}_{t+1} &= (\Delta\text{CPI}_t + 0.10) \text{ for } t+1 = 2006; \\ \Delta\text{MAR}_{t+1} &= (\Delta\text{CPI}_t + 0.05) \text{ for } t+1 = 2007, 2008 \text{ or } 2009;\end{aligned}$$

where:

$\Delta\text{MAR}_{t+1}$  = the change in maximum average revenue calculated as the percentage increase in total average revenue in the year  $t+1$  as a proportion of the total average revenue in year  $t$ ; and

$\Delta\text{CPI}_t$  = the percentage increase in the consumer price index excluding betelnut, alcoholic beverages and tobacco (“CPI”) calculated over the four quarters to June in year  $t$ , over the CPI calculated over the four quarters to June in year  $t-1$ .

### Tariffs for 2005 to 2007

Tariffs for the regulated services of Eda Ranu have been set under this MAR and have been notified and published in the National Gazette. In a notice dated 19<sup>th</sup> December 2006, the Commission notified the tariffs which have applied for 2007 and published these in the National Gazette dated 21<sup>st</sup> December 2006.

### MAR Review

Following an application by the Minister for Treasury under Section 25A(2) of the PR Act, the Commission has reviewed Eda Ranu’s existing pricing arrangement with a particular focus on the capital expenditure requirements which Eda Ranu committed to undertake between the period of the current price path, being from 2005 to 2009. Following this review, including publication of an Issues Paper, Draft Report and now the Final Report, and consideration of submissions and comments from various stakeholders, the Commission determines to apply the following adjustment to the previous MAR adjustment formula.

## MAR for 2008 & 2009

For the purposes of section 21(2)(a), (b), (c), (d) and (g) of the Prices Regulation Act, the maximum prices at which Water and Sewerage services may be supplied by Eda Ranu are subject to a new maximum average revenue cap for the remainder of the current regulatory period. This remaining period is from 1 January 2008 to 31 December 2009. The form of the new MAR to apply during this period is described as follows;

### New price path for 2008 and 2009

The new price path of CPI-2.5% will apply from 1<sup>st</sup> January 2008 to 31<sup>st</sup> December 2009. For each regulatory year  $t$ , Eda Ranu must set prices such that the reasonably forecast maximum average revenue (MAR) from the provision of water and sewerage services comply with the following formulae:

- $MAR\ Water_t \leq (1+(CPI_t + X_t))*MAR\ Water_{t-1}$
- $MAR\ Sewerage_t \leq (1+(CPI_t + X_t))*MAR\ Sewerage_{t-1}$

Where:

- $t$  is the year in which the tariffs are being set;
- $MAR\ Water_{t-1}$  and  $MAR\ Sewerage_{t-1}$  are the allowed (not actual) MAR Water and MAR sewerage calculated for year  $t-1$ ;
- $CPI_t$  (excluding tobacco, alcohol and betelnut) published by the National Statistical Office for the 12 month period ending on 30 June in Regulatory Year is calculated as follows:

$$CPI_t = \frac{CPI\ March_{t-1} + CPI\ June_{t-1} + CPI\ Sep_{t-2} + CPI\ Dec_{t-2}}{CPI\ March_{t-2} + CPI\ June_{t-2} + CPI\ Sep_{t-3} + CPI\ Dec_{t-3}} - 1$$

; and

- $X_t$  is as follows:

Year $t$	$X_t$
2010	-2.5%
2011	-2.5%.