

**GOVERNEMENT DE LA
REPUBLIQUE DU VANUATU**

**Autorité Règlementaire
d'Utilités
Ministère des Finances
et de la Gestion Economique**

SAC POSTAL PRIVE 9093, PORT-VILA, VANUATU
TEL: (678) 29795



**GOVERNMENT OF THE
REPUBLIC OF VANUATU**

**Utilities Regulatory Authority
of Vanuatu
Ministry of Finance and
Economic Management**

PRIVATE MAIL BAG 9093, PORT VILA, VANUATU
TEL: (678) 29795

Utilities Regulatory Authority of Vanuatu

Utilities Regulatory Authority

Electricity Tariff Review Framework

FRAMEWORK PAPER

APRIL 2009

The Utilities Regulatory Authority (the URA) is Vanuatu's economic regulator of essential utility services in Vanuatu. The Government of Vanuatu established the Utilities Regulatory Authority on 11 February 2008 under the *Utilities Regulatory Authority Act No. 11 of 2007*.

The URA is responsible for the regulation of certain services in the electricity and water sectors. Our role differs in each regulated industry but generally involves regulating prices, service standards, and market conduct and consumer protection. We also investigate and advise the Government on regulatory matters that affect Vanuatu's essential utilities.

The *Utilities Regulatory Authority Act No. 11 of 2007* states that our primary objective is to regulate certain utilities to ensure the provision of safe, reliable and affordable regulated services and maximise access to regulated services throughout Vanuatu.

The Vanuatu Government has awarded concession contracts for the provision of water and electricity services to a private operator. These contracts delegate the exclusive responsibility for the provision of water and electricity services in Port Vila, and electricity services in Luganville, Tanna Island and Malekula to UNELCO (a subsidiary of the SUEZ Group). The contracts specify rules regarding service coverage, the quality of service to be provided, and the maximum tariffs that may be charged for these services. As the counterparty to each of these contracts, the Government has been responsible for monitoring the utility company's compliance with the contractual provisions.

The power supply concession in Luganville commenced on 23 January 1990 and is due to expire on 31 December, 2010. In accordance with the concession contract the Government has advised UNELCO of its intention to re-tender the concession agreement. The tender process is expected to commence in June 2009.

The Government's concern about the high cost of electricity has led to the URA undertaking a full review of the level and structure of tariffs for all concession areas. Current concession agreement permits the Government to review and reset tariffs for cause and for the simple reason of passage of time.

The tariff review is expected to provide guidance to negotiating level and structure of consumer tariffs, establishing bulk tariffs for sale or purchase, and formulating a different process for tariff-setting for the expiring (end 2010) concession in Luganville.

Johnson Naviti
Chairperson

Stakeholders are invited to comment on the issues set out in this paper. Responses and information received will be considered in the formulation of a Draft Decision and final advice provided to the relevant Ministers

Submissions are due on 29 May 2009 and can be emailed to tmael@vanuatu.gov.vu or mailed to:

Electricity Tariff Review Framework
Utilities Regulatory Authority
PMB 9093
Port Vila, VANUATU

Submissions may also be made in person at the Office of the Utilities Regulatory Authority located at Level 3 Constitutional Building Lini Highway Port Vila, Vanuatu.

Submissions will be made available on the Authority's website in accordance with the Authority's website policy. Any material that is confidential should be clearly marked as such.

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3 | Introduction

The *Utilities Regulatory Authority Act Number 11 of 2007* (the **Act**) establishes the Utilities Regulatory Authority (URA) of Vanuatu. The URA is a body corporate with perpetual succession, acting independently from the Government. The URA's Commission consists of three Commissioners, a Chairperson and two part time Commissioners of which one is the Chief Executive Officer of the Authority.

The Act empowers the URA to regulate certain utilities, in particular, the provision of electricity and water services in Vanuatu.

The URA's core functions with respect to the existing water and electricity utility include:

- Monitoring and enforcing existing concession contracts which include checking monthly price adjustments made by the utility, monitoring service standards and technical performance, reviewing yearly financial reports and auditing operating report processes;
- Renegotiating tariffs with the utility in accordance with the relevant concession contracts;
- Manage consumer complaints by assisting consumers resolve grievances and/or complaints with the utilities;
- Advise Government on utility-related matters as requested; and
- Communicating with the Government, utilities, customers and the general public in order to provide information about matters or updates relating to utilities.

The Vanuatu Government has awarded concession contracts for the provision of water and electricity services to a private operator. These contracts delegate the exclusive responsibility for the provision of water and electricity services in Port Vila, and electricity services in Luganville, Tanna Island and Malekula to UNELCO (a subsidiary of the SUEZ Group). The contracts specify rules regarding service coverage, the quality of service to be provided, and the maximum tariffs that may be charged for these services. As the counterparty to each of these contracts, the Government has been responsible for monitoring the utility company's compliance with the contractual provisions.

The **Act** empowers the URA to exercise the functions and powers of the Government relating to the existing concession contracts for electricity and water supply services, which remain unchanged. The Ministers, however, continue to set direction for electricity and water supply at the policy level.

The power supply concession in Luganville commenced on 23 January 1990 and is due to expire on 31 December, 2010. In accordance with the concession contract the Government has advised UNELCO of its intention to re-tender and /or renegotiate the concession agreement. The tender process is expected to commence in June 2009.

Further, the Sarakata Special Reserve Fund was established on 3 March, 1995 in an addendum to the Luganville concession agreement with UNELCO. Under the addendum, UNELCO is responsible for the operations and maintenance of the Sarakata hydro plant (2 X 300 kW units). Tariffs are set for Luganville on the basis that all electricity is produced using diesel fuel. The savings compared to the actual hydroelectric generation costs, after deductions for maintenance and management fees, and for contributions to a 'renewal fund', are credited to the Sarakata Special Reserve Fund. The Fund is to be used primarily to finance rural electrification, but may be also used for subsidizing tariffs across all concession areas in Vanuatu. The third phase of the Sarakata Hydro Project (an additional 600 kW unit) is nearing completion with funding from Japan. A review of the operation and management of the Sarakata Special Reserve Fund will be considered in the context of the review of the Luganville concession to ensure it is fully effective in achieving its stated objective of promoting rural electrification.

In addition, the Government's concern about the high cost of electricity will require the URA to undertake a full review of the level and structure of tariffs for all Concession areas. Current concession agreement permits the Government to review and reset tariffs for cause and for the simple reason of passage of time being every five years.

Existing concession contracts between the Government and UNELCO provide clear specifications as to when tariff resets can occur. However, the contracts do not make any provision for the methodology or process to be used for resetting tariffs. The tariff study conducted by the URA is expected to provide guidance for the future, to negotiating level and structure of consumer tariffs for all concession contracts, establishing bulk tariffs for sale or purchase, and formulating different process for tariff-setting for expiring (end 2010) concession in Luganville.

The URA has commenced a full review of services standards, the cost of, and structure of tariffs for water and electricity services in Port Vila, and electricity services in Luganville, Tanna Island and Malekula. As part of this review the URA will also provide the Government of Vanuatu with recommendations on the tendering of the Luganville Concession Contract (Luganville Concession) and the improved administration of the Sarakata Special Reserve Fund.

Therefore, the URA will:

- Review the current costs to develop an estimate of the efficient cost of electricity service in Vanuatu and the associated revenue requirement for the utility;
- Assess the impact of alternative generation technologies such as wind, solar and biomass on costs, revenue requirements and periodic tariff adjustments (due to corresponding variability of diesel volumes and prices);

- Review the structure of tariffs for all concession and determine the impact on consumers from alternative tariff schedules, including differentiated pricing between concession areas;
- Review the tariff adjustment formulae for all concessions and determine the impact on consumers of alternative tariff adjustment formulae including the current one;
- Develop a view as to the reasonableness of service standards for electricity currently specified in the concession contracts, and the possible cost implications of any changes to the service standards, to inform its decision on whether to request changes in service standards in conjunction with any tariff renegotiation;
- Develop, in consultation with UNELCO, an approach and methodology for conducting tariff renegotiations now and in the future – to specify principles and guidelines, and the process and financial model needed for reviewing tariffs; and
- Develop, in consultation with UNELCO, the information needed for an electricity tariff renegotiation, including accounting and technical definitions.

3.1 Tariff review regulatory framework

Section 20 of the *Utilities Regulatory Authority Act No 11 of 2007* sets out that the rights exercisable by the Government in the concession contracts described in Part B of Schedule 1 are assigned to the URA, but may only be exercised by the Authority upon receiving written approval of the relevant Minister.

On 25 March 2009 the URA wrote to the Honourable Raphael Wor Wor, Minister for Lands Geology and Mines and the Honourable Serge Vohor, Minister for Infrastructure and Public Utilities seeking approval to commence a review of electricity and water tariffs in Vanuatu.

In accordance with sections 5 and 18 of the specification relating to the concession for the generation and supply of electric power in Luganville, the URA will undertake as part of the tariff review a revision of the base price and of the adjustment formula concerning all concessions, and seeks UNELCO's assistance in providing the Authority with all relevant accounts and statistical statements.

3.2 Purpose of this paper

The purpose of this paper is to seek stakeholder comment on the current level of tariff and service standards for water and electricity services in Port Vila, and electricity services in Luganville, Tanna Island and Malekula.

The paper seeks comment on the following key issues:

- The URA's proposed approach and methodology in conducting the cost of service and tariff review outlined in this paper;
- The extent to which performance standards are adequate and /or need to be better enforced. The current level of service across the concession areas and / or current

service standards and levels of reliability. The URA seeks to understand the level of service provided, and the potential constraints and limitations to enforcement of service standards;

- The URA’s proposed approach, in particular, on how tariffs will be indexed and reset giving consideration to reducing the extent of fuel price indexation and /or adopt forward-looking periodic review of prices;
- In regards to the Luganville concession stakeholders are invited to comment on the extension of the Luganville concession area, duration of proposed concession contract and service standards and service coverage; and
- Whether the Sarakata Special Reserve Fund continues to be a useful model for charging electricity in Luganville and funding rural electrification or whether alternative models should be considered.

The URA has set out specific issues on which stakeholders are invited to comment. However, stakeholders should make any other comments that they wish that may not be covered by the issues raised in this consultation paper.

3.3 Structure of this paper

This paper sets out the URA’s proposed approach to the tariff review.

Chapter 4 presents the URA’s proposed approach to undertake a cost of service review for water and electricity services in Port Vila, and electricity services in Luganville, Tanna Island and Malekula;

Chapter 5 sets out the URA’s proposed approach to undertake a service standard review for water and electricity services in Port Vila, and electricity services in Luganville, Tanna Island and Malekula;

Chapter 6 outlines the URA’s proposed approach to undertake a tariff review for water and electricity services in Port Vila, and electricity services in Luganville, Tanna Island and Malekula. This section also sets out the proposed approach to developing alternative methodologies for adjusting tariffs, e.g. through indexation and for periodically re-negotiating tariffs;

Chapter 7 describes the URA’s approach to developing optimal terms for the tender of the Luganville concession;

Chapter 8 discusses the URA’s approach to undertake a review of the Sarakata Fund’s (the Fund) costs, efficiency, and effectiveness; and

Appendix A provides an indicative timeline for completing the tariff review

Appendix B provides an indicative timeline for the tender of the Luganville concession.

4 | Cost of service review

The cost of service review will focus on developing an estimate of the reasonable cost of service for water and electricity services in Port Vila, and electricity services in Luganville, Tanna, and Malekula Island. On the basis of the estimate of what constitutes reasonable costs for providing services, the minimum revenue requirement for the utility to provide safe and reliable service is determined.

This review process will go some way to clarifying a number of the issues that have been raised by various stakeholders, such as the connection between costs and the tariff levels of electricity in Vanuatu.

The review will provide estimates for the actual cost of service for each concession area currently held by UNELCO. Further, the cost of service report will provide relevant supporting documentation and analysis, including the results of a benchmarking study of UNELCO against 5-10 other similar utilities, including a review of operating practices for electricity supply and alternative generation technologies.

In undertaking this review of the cost of service, the following activities are proposed:

4.1 Information and data collection

In accordance with sections 5 and 18 of the specification relating to the concession for the generation and supply of electric power in Luganville, the URA will seek UNELCO's assistance in providing the Authority with all relevant accounts and statistical statements. The data request sent to UNELCO contains a detailed list of the data needed to estimate the actual cost of service. This data will be used to establish the reasonable cost of service for water and electricity supply. At the request of UNELCO this information request has been provided to UNELCO in both French and English. The information request is disaggregated for each concession area. The URA will also collect information from UNELCO on their internal operational practices which will assist the URA in its assessment of costs.

4.2 Demand analysis

The URA will review and assess current and future projected demand profiles and corresponding supply expansion plans and costs. The demand analysis will be used to develop appropriate financial models for each of the five concessions. To perform these analyses, the URA will review historic growth rates, together with UNELCO's projections, and analyze demand growth against other key growth rates, including population, income, and tariffs, to derive projections for the future. Following development of the demand forecasts, the URA will develop a number of expansion planning scenarios. These scenarios may include a base-case diesel expansion plan as well as a number of alternative expansion scenarios, including options for the inclusion of various alternative sources of energy. All this information will feed into the determination of the revenue requirements for the utility, including for investments, at present and into the future.

4.3 Financial model and information analysis

The URA will produce a financial model for each concession area. The analysis will be based on the current tariff structure and use the data received from UNELCO along with the results of the demand analysis to populate the URA's standard models for electricity and water utilities. These financial models will allow the URA to calculate revenue requirements at the individual concession level, and to aggregate these into an average across all concessions.

4.4 Cost of service and performance benchmarking

An important aspect of the cost of service review will be an assessment of the efficient cost of service by benchmarking the performance of UNELCO against a number of other Pacific and Caribbean utilities operating in comparable island context. The benchmarking exercise aims to establish whether there is scope for improvement on key indicators for cost of water and electricity supply and to assess the reasonableness of UNELCO's current cost structure. The URA will compare the performance of UNELCO against that of 5-10 similar utilities, taking into account differences in the operating environment between UNELCO and the selected benchmarked utilities. Key indicators that will be benchmarked include, but are not limited to, the following:

- System losses
- Capital expenditure per customer
- Fuel cost per unit generated
- Customers per employee
- EBITDA¹ per kilowatt hour (kWh) sold.

Stakeholders are invited to comment on the extent to which performance standards are adequate and /or need to be better enforced.

4.5 Operational and procurement practices

An assessment of operational and procurement practices will be performed in key areas. These will include fuel procurement, and any areas of operations where benchmarking may indicate scope for efficiency gains. The URA will consider these comparisons to assess performance adequacy in Vanuatu. Where inadequacies are found, the URA will identify the source based upon these comparisons.

¹ Earnings before Interest, Tax, Depreciation and Amortisation

4.6 Cost of unregulated services

The URA will review and assess the cost of unregulated services, such as customer extensions, the operation of public street lights, and connection requirements. Following the completion of this comparison exercise, the URA will develop appropriate regulations or recommend adjustments where necessary, to ensure that customers do not suffer due to uncompetitive pricing for the examined services. In undertaking this activity, the URA will compare UNELCO's costs and fees for these services against the costs and fees charged by third party contractors for the same work, as follows:

- Through information requests, establish UNELCO's actual costs for selected unregulated services
- Where possible, establish independent contractors' costs and fees for the same work in the same locations
- Where this is not possible, establish baseline costs and fees for the same work in similar geographies, especially in similar Pacific Island nations
- Compare these costs and fees to the fees that UNELCO charges

4.7 Review of company overheads

The URA will review the cost and breakdown of company overheads and assess the cost of UNELCO overheads that are shared between the provision of energy and water for the Port Vila concession contract.

In addition to the benchmarking exercise within the cost of service review, the URA will seek to benchmark overhead costs for concession areas where a single company is responsible for the provision of both water and electricity, as is the case with Port Vila.

The URA will further examine how UNELCO distributes the synergies achieved through shared overhead between its water and electricity concessions for Port Vila, and provide guidance on how to structure tariffs in a manner that both encourages UNELCO to maximize overhead synergies and pass cost savings that it achieves on to its customers in the form of lower tariffs.

Stakeholders are invited to comment on the URA's proposed approach and methodology in conducting the cost of service review outlined above.

5 | Service standard review

The service standard review task will focus on a review of and an assessment of current service obligations and reliability performance standards for water and electricity services in Port Vila, and electricity services in Luganville, Tanna Island and Malekula.

This review process will determine whether service standards in each of the five concession areas are currently being met. As part of this task the URA will assess, if necessary, whether any adjustments to the current service standards are required.

For example, it may not be economic for all concessions to have the same level of reliability.

In undertaking this service standard review, the following activities are proposed:

5.1 Information and data collection

Similar to the initial cost of service review, and in accordance with sections 5 and 18 of the specification relating to the concession for the generation and supply of electric power in Luganville, the URA will seek UNELCO's assistance in providing the Authority with all relevant accounts and statistical statements. The data request sent to UNELCO contains a detailed list of the data needed to review current service standards and determine appropriate service standards to be applied in the future.

This data will be used to establish the level of service for each concession area and assist the URA in determining the level of service currently being achieved for the respective areas.

5.2 Performance benchmarking

In undertaking an assessment of the performance of UNELCO against a number of other Pacific and Caribbean utilities, the URA will seek to establish whether there is scope for improvement on key indicators for electricity and water supply standards. Similar to section 4.4 above, a comparison of UNELCO's performance against that of 5-10 similar utilities, taking into account differences in the operating environment between UNELCO and the selected benchmarked utilities. Key indicators that will be benchmarked include, but are not limited to the following:

- Complaints per 1,000 customers
- Customer average interruption duration index (CAIDI)²
- System Average Interruption Duration Index (SAIDI)³

5.3 Service standard specification

The URA will undertake a review and assessment of the service standard specifications in consultation with UNELCO and interested stakeholders to determine whether an adjustment to the current service standard specifications is required, taking into account any possible implications for UNELCO on their cost of service, revenue requirement and tariff.

² Customer Average Interruption Duration Index, which is the average time taken for supply to be restored to a customer when an interruption (of duration equal to or longer than one minute) occurs.

³ System Average Interruption Duration Index, which is the total minutes, on average, that a customer could expect to be without electricity in a year due to interruptions (of duration equal to or longer than one minute)

The URA will then recommend adjustments or modifications to the service standard specifications in any areas where the benchmarking, and review of operations and technologies, indicate that this was warranted and develop new performance criteria as required.

In undertaking the review of service standards, the URA will report and advise on the actual service standards for each concession area, and establish the level of service standards that are being achieved. The URA will also outline the results of the benchmarking exercise for actual service standards provided by UNELCO against other similar utilities, and will review operating practices. Further, the URA will provide an assessment of whether adjustments in the service standards would be needed for each concession area, taking into account the implications of such adjustments on the cost of service and tariffs.

Stakeholders are invited to comment on the current level of service across all five concession areas and / or current service standards and levels of reliability. The URA seeks to understand the level of service provided, and the potential constraints and limitations to enforcement of service standards.

6 | Methodology for tariff review

In undertaking the tariff review, the URA's objective is to build a methodology for negotiating and establishing tariffs that both accords with the concession contracts and meets standards for good regulatory practice. This methodology will include clarifying the process for resetting tariffs in the future and establish an appropriate financial model to be used for tariff resets. The URA will develop the methodology in consultation with UNELCO and key stakeholders in a manner that takes into account the need for openness and transparency, while also being reasonably efficient.

Appendix A sets out an indicative timeline for conducting the tariff review.

The rationale for the tariff review is to assess the continuing appropriateness of tariffs, both in terms of their level and structure. The URA aims to find the right balance between the interests of the consumers of Vanuatu, of the utility, and of the Government. In short,

- consumers should not pay more than necessary to receive electricity service of a given standard;
- the utility should be able to charge tariffs in such a manner that it can cover all its costs, and this includes operating, maintenance and investment costs; and finally,
- the government needs to keep the long-term growth and economic development of Vanuatu in view and thus wants present tariffs to support improvements and future investments in electricity supply.

The methodology the URA proposes, to assess whether tariffs are appropriate to balance the concerns of all stakeholders takes the following form:

- the costs of the utility are reviewed in order to determine what the minimum revenue requirement is for electricity supply to operate in a commercially viable manner;
- the cost information gathered from Unelco to inform what level of expenses are associated with the provision of services will be cross-checked by consultants using benchmarking information. This will allow the URA to assess Vanuatu's costs of electricity supply compared to other similar countries.
- the appropriateness of costs is intimately linked to the quality and reliability of service that consumers request, and the level of safety that is imposed. Service standards are therefore reviewed for their appropriateness at the same time as company costs;
- in order to determine whether the medium to long term growth and development concerns are addressed, a forward-looking assessment of consumer demand (commercial and residential) and future network investments is undertaken.
- Regarding forward-looking investments it is also highly relevant to assess alternative generation technologies such as wind or solar.

Given all elements above, required revenues to cover present and future costs of electricity supply will be calculated by the URA. The instrument to calculate the revenues will be a financial and economic model tailored to Vanuatu.

Required revenues indicate the total amount of money the utility is anticipated to need to meet its cost obligations for operations, maintenance and forward-looking investment and it also needs to include a compensation for investors who have put their capital at disposal for the construction of the network. An analysis of tariff levels and tariff structure needs to be undertaken in order to determine how the total amount of required revenues is generated by different consumer groups and different concession areas. The URA model will allow analyzing the current contributions of different users and will allow assessing alternative tariff levels and structure.

Regular tariff adjustments (monthly or quarterly indexation) will be undertaken once the tariff levels are determined in the 2009 review. The review will also assess different possibilities for these.

The use of a model will allow testing for different scenarios. Questions that can be addressed in this manner include how the revenue requirement changes if higher or lower quality standard are imposed, or faster or slower expansion plans are implemented. Trade-offs will thus become transparent and can be submitted to the stakeholders for final decision: better or more services imply higher costs and a higher revenue requirement which might in turn translate into higher tariffs conditional on demand and technology developments.

The URA intends to use the methodology set out in this tariff review to establish a transparent framework for future tariff adjustments and periodic reviews.

Stakeholders are invited to comment on URA's proposed approach and methodology in conducting the tariff review as outlined in this section.

6.1 Tariff structure assessment

In our work on the tariff structure, we will consider questions such as:

- Is the current lifeline block an appropriate way of meeting social objectives to help low income consumers?
- Is there an appropriate and cost-reflective split between fixed and variable charges?
- Are the differentials in charges between the various types of customer justified?
- Are there opportunities to promote greater efficiency and conservation, for example through more aggressive use of time-of-day pricing, or offering discounts for interruptible supply?
- What is the usefulness of the implicit cross-subsidies between concession areas? How effective would potential alternatives be?

We will perform this analysis for each concession individually. Following this work, we will report on the efficiency, fairness and financial viability of the existing tariff levels and structures.

The URA will assess, in consultation with UNELCO, alternative fuel cost adjustment mechanisms for electricity and water tariffs in Vanuatu. Specifically, the URA will assess alternatives for incorporating hydro and wind generation, and the use of bio-fuel blends with diesel, into the revised tariff structure. The current tariff structure is designed to “automate” monthly adjustments to the electricity tariff to ensure that changes in fuel prices which are outside of the control of the electricity provider are passed through to consumers. To allow for, and encourage, greater use of renewable energy, the URA expects the main focus will not necessarily be on the structure of tariffs, but on how tariffs will be indexed and reset. For example, one approach would be to reduce the extent of fuel-price indexation. Another approach would be to adopt forward-looking periodic reviews of prices.

Stakeholders are invited to comment on the URA’s proposed approach, in particular, on how tariffs will be indexed and reset giving consideration to reducing the extent of fuel price indexation and /or adopt forward-looking periodic review of prices.

In addition the URA will review any implicit cross-subsidies between concession areas, to assess the effect of reduced tariffs and investment growth in the concession areas, and to determine alternatives for encouraging access. The URA proposes to conduct this cross-subsidy review as a component of the tariff structure analysis, because an assessment of the effects of these cross-subsidies will be integral to developing a comprehensive understanding of current tariff structures, and how they can be made more efficient.

Further, the URA aims to clarify the process to follow for resetting tariffs. This process will be built upon the experience with other French-derived affermage and concession contracts, and also with utility regulation in other Pacific Island countries. The URA’s proposed approach for the tariff reset process is based upon the “Building Blocks Methodology”, which is described below.

In consultation with UNELCO, the Government and key stakeholders, the URA will develop tariff adjustment alternatives that will incentivize concession holders to share efficiency and sales volume gains with customers, will mandate continued access expansion, and will promote cost reduction options such as demand management and distributed generation. The URA considers that exploration of these tariff adjustment alternatives will be an integral part of the tariff structure review, and these considerations will be integrated into the outputs of this work.

Building upon the experience with other French-derived affermage and concession contracts, and with utility regulation in other Pacific Island countries, the URA will seek to recommend the application of a financial model that meets with international standards for good regulatory practice. The proposed financial model will be based upon previous

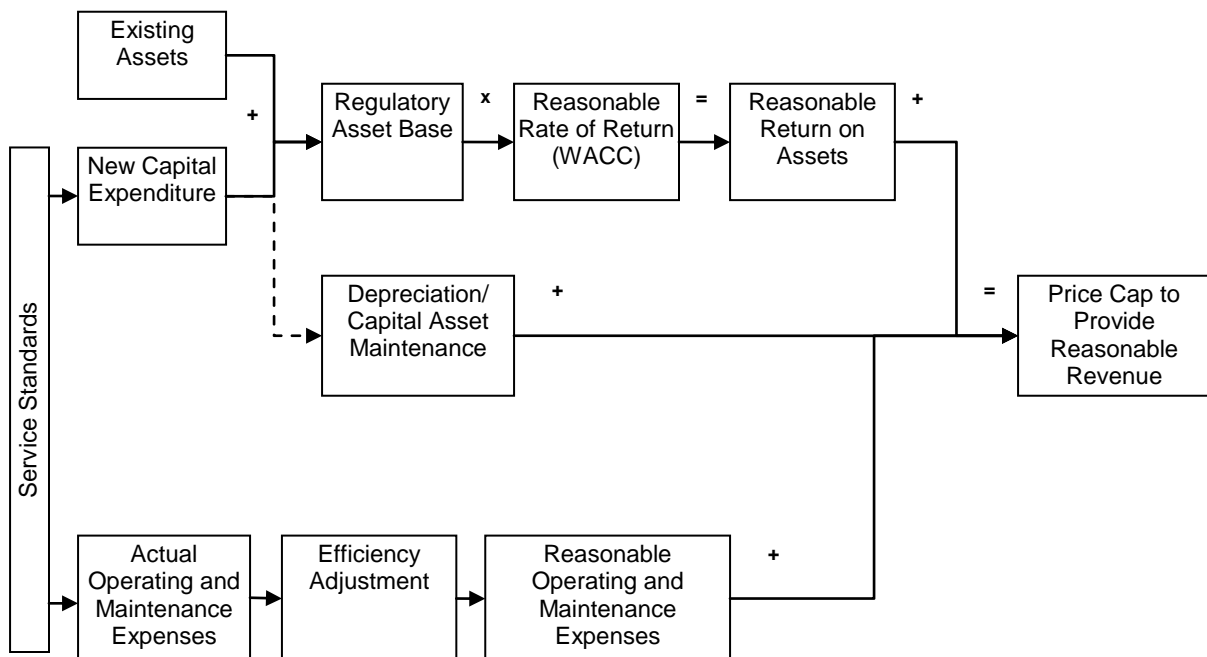
international experience with financial models as described in the “Building Blocks Methodology”.

6.2 Building blocks methodology

The building blocks approach has been applied by regulators in many different countries, including Australia, New Zealand, and other Pacific Island Countries such as Tonga. This approach gives the service provider a reasonable amount of certainty that it can stay profitable, while also giving the provider an incentive to improve performance. The provider has this incentive because the tariff is locked-in for the regulatory period (usually five years) based on forecast efficient costs—if the provider can reduce costs below forecasts then it can keep the difference. After five years (in normal circumstances) the tariff will be reviewed again, taking into account the efficiency gains made by the provider.

The building blocks approach consists of setting a price cap on tariffs so that over the regulatory period, the net present value of the service provider’s forecast revenue is equal to the net present value of the provider’s forecast reasonable operating costs plus a forecast reasonable return on capital. This approach is outlined in Figure: 6.1.

Figure: 6.1. The building blocks approach to setting the price controls



The building blocks approach can be characterised by three steps – determining outputs/outcomes; determining the revenue requirements necessary to finance these outputs/outcomes; and translating the revenue requirement into a price control that would permit recovery of the required revenue.

Step 1 Determining outputs/outcomes

The first step to determining the price controls is to decide upon the service outcomes that the concessionaire is required to deliver over the period. These outcomes will reflect the service standards that are set as part of this tariff review as well as legislative and functional obligations that the concessionaire must meet in accordance with concession requirements. In setting these service outcomes, it is also necessary to consider anticipated future peak demand and customer numbers.

Step 2: Determining the revenue required

Having determined the outcomes that must be delivered, the revenue requirements are then determined that are sufficient to enable the concessionaire to deliver these outcomes efficiently. The building blocks approach involves building up the concessionaire's revenue from key components that reflect their operating and maintenance costs and financing requirements, the concessionaires' financing costs (return on and of capital) are built up with reference to the rolled forward value of their regulatory asset bases and the capital expenditure that they must undertake.

The URA's proposed approach also incorporates an efficiency carryover amount into the revenue requirement that allows the concessionaire to carry over benefits of any efficiency gains achieved against the expenditure forecasts in the prior regulatory period into the next regulatory period.

Step 3: Translating the revenue requirement into a price control

Having determined the revenue required, it is then translated into unit prices using forecasts of energy consumption and customer numbers. This is then translated into specific tariff proposals in accordance with a price control mechanism which specifies how prices will be adjusted annually

The building blocks approach is broadly consistent with French jurisprudence on setting tariffs. While French jurisprudence uses different terms, in particular the 'financial equilibrium of the contract', it is, in essence, concerned with allowing an operator to recover a reasonable cost of service, and often uses forward looking estimates of reasonable costs as a basis for tariff resets.

The URA, in consultation with UNELCO and key stakeholders will further explore the possibility of bringing these concepts together, and assess whether such an approach would be acceptable to all concerned.

7 Luganville concession

The power supply concession in Luganville commenced on 23 January 1990 and is due to expire on 31 December, 2010. In accordance with the Concession contract the Government has advised UNELCO of its intention to re-tender the concession agreement. The tender process is expected to commence in June 2009. Appendix B provides an indicative timeline for the tender of the Luganville concession.

The URA will provide assistance to the Government on the implementation of the tender process with due consideration to the fact that the findings from the tariff review will feed into the new concession arrangement.

The URA's objective in undertaking this task is to establish optimal terms for the retendering of the Luganville concession and to assist the Government with developing a transaction timeline and budget for the retendering process.

In undertaking this work, the URA will develop a transaction roadmap for the Luganville concession tender to assist the Government in developing the tender framework and plan. The URA will assist the Government in defining the type and level of resources required to successfully tender the Luganville concession. The URA will also support the process by ensuring clarity and consensus on the objectives that the Government hopes to achieve through the tender process, including in areas such as service standards, future tariff path and service coverage.

On the basis of the tariff review, the URA will develop a set of drafting instructions for the draft concession contract to be used in Luganville. These instructions will incorporate guidelines and recommendations that are produced over the course of the tariff review.

This work will be performed for the Luganville concession only, but will be executed in a manner that allows for efficient application in other future concession contracts based upon the same logical underpinnings.

The instructions for the draft concession contract may call for an extension of the concession areas. This would be determined based upon the URA's findings for the greatest utility to be obtained across geographies given the need to balance between increased access, effective service standards, and efficient costs of service. The duration of the draft concession contract may also be altered from its current 20-year standard. This adjustment would be determined based upon forward financial modelling that incorporates demand analyses from chosen expansion scenarios. Through that modelling exercise, the URA would consider the contract duration that offers the optimal balance between investment security and tariff efficiency.

Stakeholders are invited to comment on:

- **extension of the Luganville concession area;**
- **duration of proposed concession contract; and**
- **service standards and service coverage.**

8 Sarakata hydroelectric generation

The Sarakata Special Reserve Fund was established on 3 March, 1995 in an addendum to the Luganville concession agreement with UNELCO. Under the addendum, UNELCO is responsible for the operations and maintenance of the Sarakata hydro plant (2 X 300 kW units) and tariffs are set for Luganville on the basis that all electricity is produced using diesel fuel. The savings in generation costs, after deductions for maintenance and management fees, and for contributions to a 'renewal fund', are credited to the Sarakata Special Reserve Fund to be used primarily to finance rural electrification, but may be also used for subsidizing tariffs. The third phase of the Sarakata hydroelectric project (an additional 600 kW unit) is nearing completion with funding from Japan.

A review of the operation and management of the Sarakata Special Reserve Fund will be considered to ensure it is fully effective in achieving its stated objective of promoting rural electrification. The URA's objective is to review the Sarakata Fund's costs, efficiency, and effectiveness.

In conducting this review the URA will assess the cost and administration of the Fund in accordance with its rules. In assessing the effectiveness of the Sarakata Fund in meeting Government objectives the URA will review the current process for incorporating Government funding for grid extensions in the tariff process, and for recommendations on more simple, more transparent alternatives.

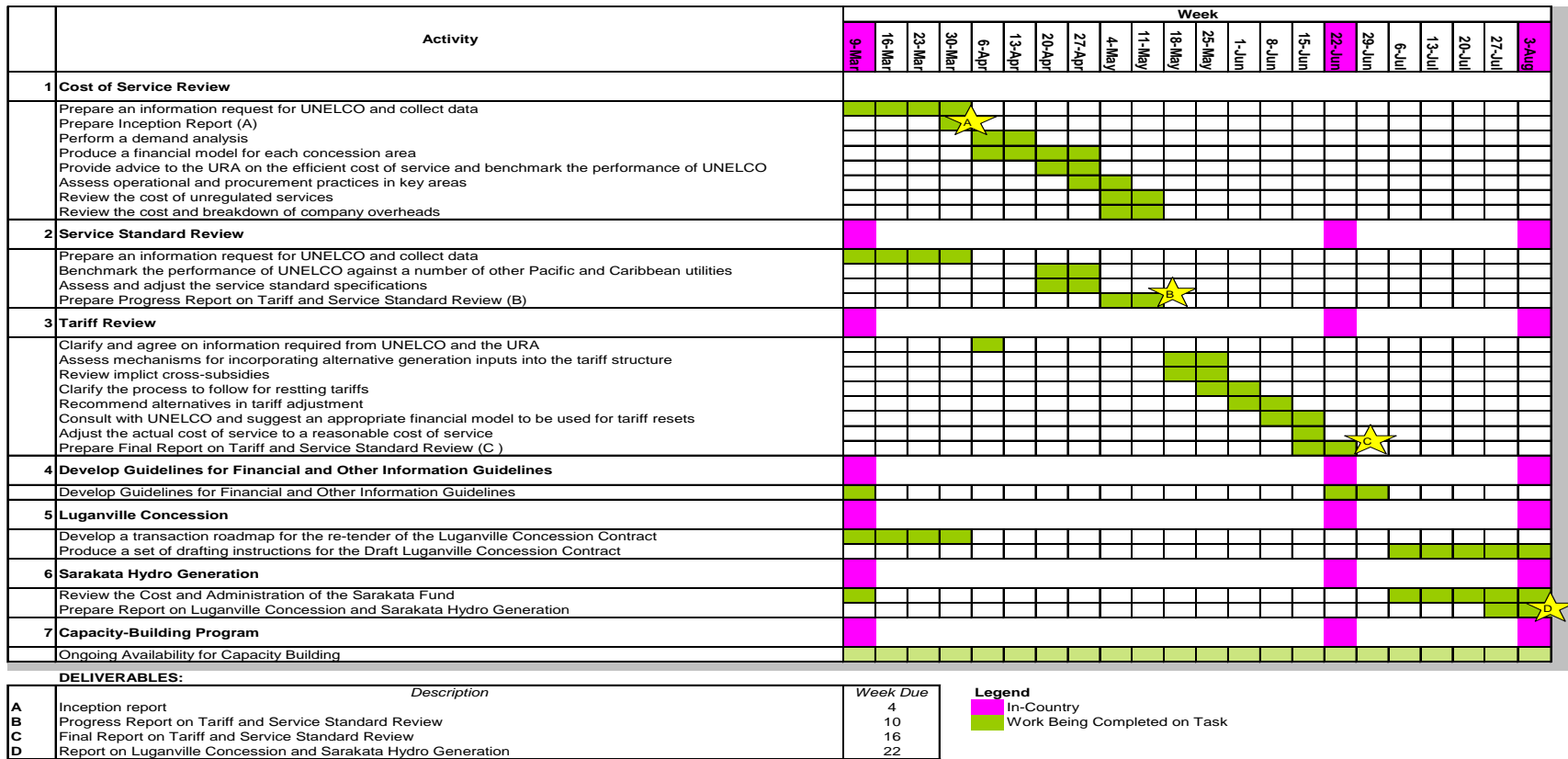
This work will form an integral part of the review of the Fund including the development and evaluation of various options for funding and managing expansion of the electricity grid. Transparency will be a key indicator against which the URA will evaluate these options.

Stakeholders are invited to comment on whether the Fund continues to be a useful model for charging electricity in Luganville and funding rural electrification or whether alternative models should be considered.

Appendix A: Proposed timeline for completing the tariff review

The proposed timeline for completing the review is presented in Figure: 9.1. The tasks are also listed, and include four key outputs including this Tariff Review Framework Paper.

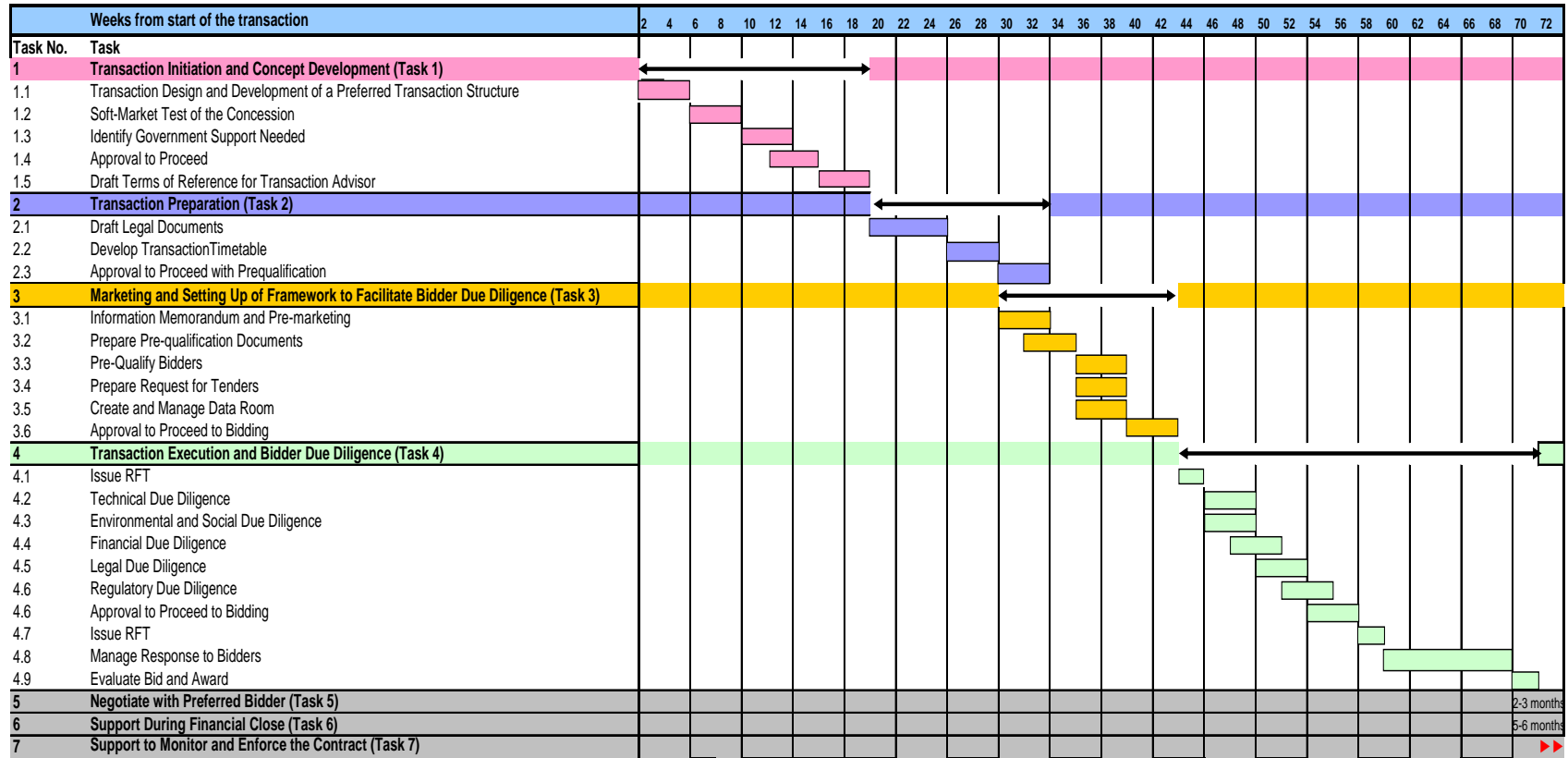
Figure: 9.1 Revised Work plan



Appendix B: Proposed timeline for tender of Luganville concession contract

Figure: 10.1 below illustrates the key steps that will be involved in the tendering of the Luganville concession contract.

Figure: 10.1 Timeline for the tendering of the Luganville concession contract



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**Utilities Regulatory Authority
Vanuatu**

You can access the Electricity Tariff Review Framework – Framework Paper by referring to our website www.ura.gov.vu, contacting us by telephone (+678) 24945, fax (+678) 2308, email: tmael@vanuatu.gov.vu or writing to us at Office of Utilities Regulatory Authority, PMB 9093, Port Vila, Vanuatu.