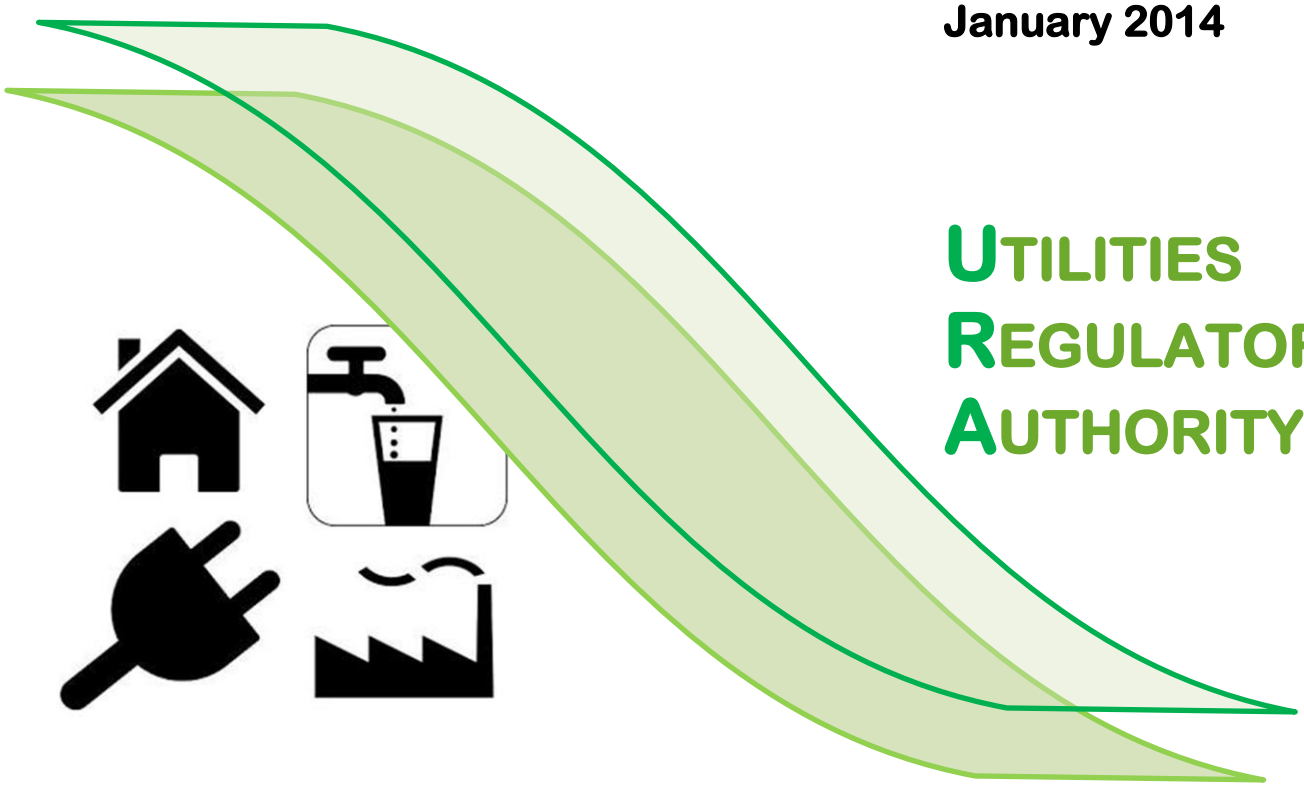
Preliminary Decision
and
Notice of Request for Comments and Public Consultation

In the matter of the Application from VUI Ltd. for a tariff decrease for electricity services in Luganville

Case U-0001-14

January 2014



UTILITIES REGULATORY AUTHORITY

Preliminary Decision

The Utilities Regulatory Authority (URA) Commission is pleased to issue this preliminary decision and accompanying staff report in the matter of the request from Vanuatu Utilities and Infrastructure Limited (VUI) for a tariff decrease for electricity services in Luganville (case U-0001-14). The Commission is also issuing a Notice of Request for Comments and Public Consultation on this matter. All interested persons and VUI consumers are encouraged to provide comments and additional information that will assist the Commission to arrive at a fair and equitable Final Order.

On 28th November 2013, the URA received an application for a tariff reduction for electricity services in Luganville from the operator, VUI. The applicant requested a tariff reduction of the base price of 3.46 vatu from the current level of 54.76, resulting in a new base price of 51.30 vatu. VUI indicates that the rate reduction is a result of cost savings due to an improvement in the performance of the Sarakata hydropower plant.

The URA Staff has performed an investigation and analysis based on data provided by VUI. This is not a full tariff review; rather, the scope was limited to a review of the impact on generation costs as a result of fuel price changes and increased utilisation of the Sarakata hydropower plant, and an updated operational cost forecast based on the actual performance of VUI since 2011.

Based on its investigation the Staff has recommended that the base price should now be set at 46.17 vatu/kWh. This represents a 15.70% reduction in prices compared to December 2013. If approved by the Final Order, the URA intends for this new price to be applied to customer bills as of March 2014, and requests VUI to indicate on the first bills that the new tariff is by order of the URA. The breakdown of different customer charges is shown in the table below:

Table 1: Comparison of customer charges

Customer category	Charge	Tariff of Dec-2013	New Tariff	Change
Low Voltage (including small domestic, business license holders, and other low voltage customers)	Unit charge per kWh Up to 60 kWh 61-120 kWh 121-180 kWh Over 180 kWh	 20.81 vatu per kWh 53.12 vatu per kWh 98.57 vatu per kWh 60.24 vatu per kWh	 17.54 vatu per kWh 44.78 vatu per kWh 83.10 vatu per kWh 50.78 vatu per kWh	 -15.70% -15.70% -15.70% -15.70%
	Monthly fixed charge	None	None	None
	Security deposit for new connections	3,833 vatu for connections up to 2.2kVA 8,214 vatu per subscribed kVA for connections over 2.2 kVA	3,231 vatu for connections up to 2.2kVA 6,924 vatu per subscribed kVA for connections over 2.2 kVA	-15.70%

Customer category	Charge	Tariff of Dec-2013	New Tariff	Change
Sports Fields	Unit charge per kWh	54.76 vatu per kWh	46.17 vatu per kWh	-15.70%
	Monthly fixed charge	None	None	None
	Security deposit for new connections	None	None	None
Public Lighting	Unit charge per kWh	29.57 vatu per kWh	24.93 vatu per kWh	-15.70%
	Monthly fixed charge	None	None	None
	Security deposit for new connections	None	None	None
High Voltage	Unit charge	38.33 vatu per kWh	32.32 vatu per kWh	-15.70%
	Monthly fixed charge	1,369 vatu per subscribed kVA	1,154 vatu per subscribed kVA	-15.70%
	Security deposit for new connections	8,214 vatu per subscribed kVA	6,924 vatu per subscribed kVA	-15.70%

The table below shows the impact on customer bills of this price change, based on some example levels of consumption.

Table 2: Example customer bill comparison

Customer type	Monthly consumption	Old bill* vatu	New bill vatu	Difference vatu
Low voltage	60 kWh	1,249	1,053	-196
	100 kWh	3,373	2,844	-529
	200 kWh	11,554	9,743	-1,811
	500 kWh	29,625	24,982	-4,644
	1000 kWh	59,743	50,379	-9,364
High voltage	30,000 kWh 100 kVA	1,286,860	1,085,153	-201,707

** Based on December 2013 price*

The URA Staff also recommends that the current monthly tariff adjustment provision for fuel and other price changes be eliminated. In order to appropriately adjust for cost fluctuations, the URA Staff recommends an annual reconciliation of the actual generation costs of the previous twelve months against the forecasted costs. If the actual generation cost per kWh is lower than the forecast, the tariff will be adjusted to pass the benefit to customers. If the actual costs are higher, the tariff may be adjusted to recompense the utility.

The URA Staff also recommends that this interim tariff reduction should be applied evenly across all customer categories. The URA Staff suggests there is a need to review the current tariff structure, however the Staff recommends that this is done at a later date when more data can be collected and analysed. The Staff

Report and Recommendation that accompanies this Preliminary Decision provides more detail on the investigation and analysis that underpin the recommended new tariff.

The URA Commission after its deliberations has determined that the recommendations of the URA Staff should be adopted as a preliminary decision in this matter. A Final Order shall be decided upon review of comments and information submitted by interested persons and input from the scheduled public meetings planned in Luganville in January.

The Commission is issuing a Notice of Request for Comments and Public Consultation. All interested persons and VUI customers are encouraged to submit their comments and attend the public meetings so as to enable the Commission to arrive at a fair and equitable Final Decision and Order.

Sincerely,

Johnson Naviti, Chairman

Hasso Bhatia, PhD, Chief Executive Officer

Notice of Request for Comments and Public Consultation

All interested persons, in particular customers of VUI in Luganville, are invited to provide comments on the issues set out in this Preliminary Decision. Responses and information received will be considered in the URA's Final Order on this matter.

The URA will conduct a series of public meetings in Luganville, according to the following schedule. Interested parties are urged to attend one of the meetings, or to submit written comments to the URA.

Table 3: Schedule of public meetings

Date	Time	Venue
Wednesday 29 January 2014	10am-12pm	VNPF Conference Room, Luganville town
Wednesday 29 January 2014	4.30-6.30pm	Vanuatu Agriculture College, Santo
Thursday 30 January 2014	10am-12pm	Fanafo Community Hall, Santo
Thursday 30 January 2014	4.30-6.30pm	VNPF Conference Room, Luganville town

Written comments should be submitted to the URA by

7th February 2014

Submissions can be:

- made in person at:
  Office of the Utilities Regulatory Authority
  VNPF Investment Building, NPF Compound
  Crn Pierre Lamy & Andre Ballande Street
- mailed to:
  Utilities Regulatory Authority
  P.M.B 9093
  Port Vila, Vanuatu
- emailed to:
  Maureen Malas
  Case Coordinator –U-0001-14
  Utilities Regulatory Authority
  mmalas@ura.gov.vu

Any submission should be accompanied by a signed cover letter and address, indicating case No. (Scanned material is accepted) addressed to Hasso Bhatia, PhD, CEO

Submissions shall be posted on the URA's website in accordance with the URA submission policy. Any information you may consider confidential should be marked as such, providing a brief explanation of the nature of the confidentiality.

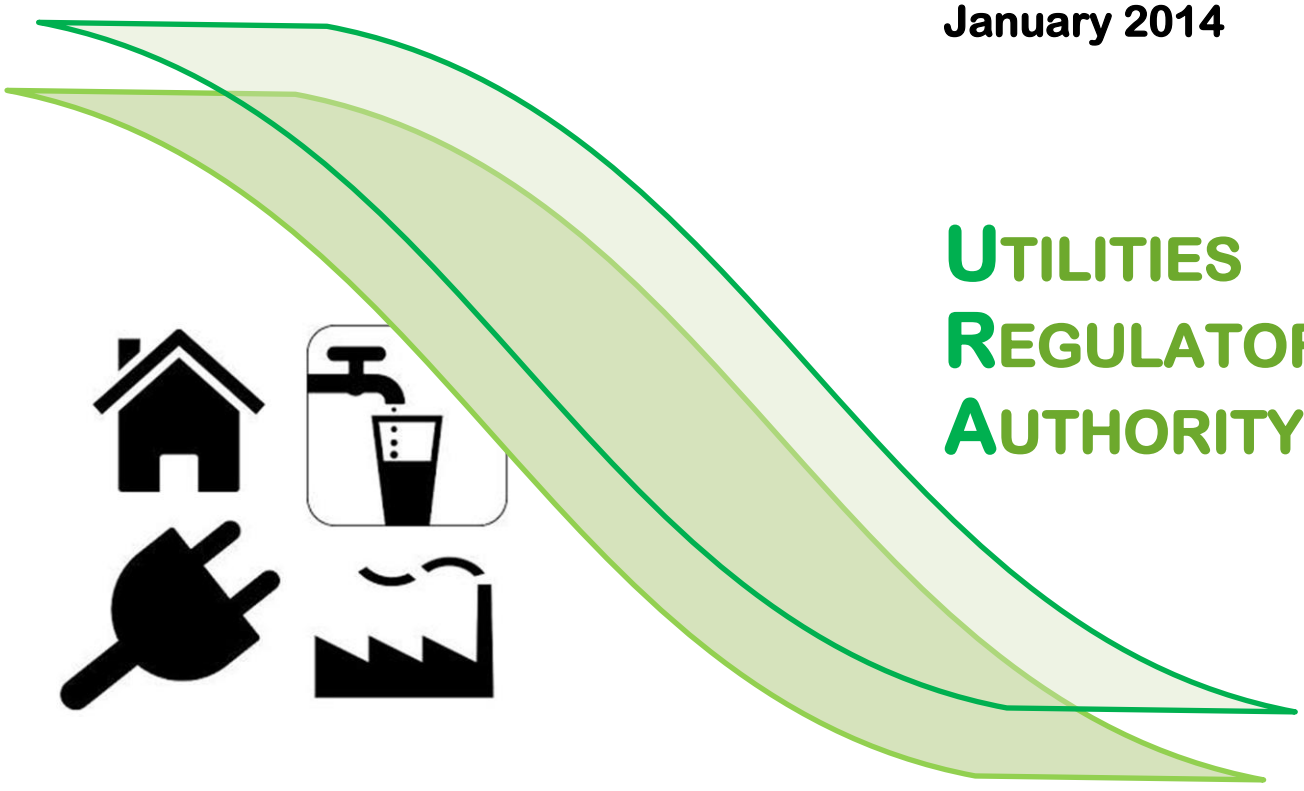
The URA office can be contacted by telephone at +678 23335

Staff Report and Recommendation

In the matter of the Application from VUI Ltd. for a tariff decrease for electricity services in Luganville

Case U-0001-14

January 2014



UTILITIES REGULATORY AUTHORITY

Contents

1. Introduction

1.1 Case information

Table 4: Case information

Case number	U-0001-14
Applicant	Vanuatu Utilities and Infrastructure Limited
In the matter of	Request for a tariff reduction for electricity services in Luganville
Commencement date	28th November 2013

1.2 Purpose of this document

The Preliminary Decision and Staff Report and Recommendations are being provided to VUI, the Government of Vanuatu, customers and interested persons. Feedback will be collected by the URA Staff directly through written submissions, and through public meetings to be held in Luganville. Based on this input, the URA Commission shall render its Final Decision and Order in the case. The Final Order is expected to be issued by the end of February 2014. All interested persons are encouraged to submit relevant comments and participate in the public meetings to assist the commission in arriving at a fair and just Final Decision.

This document describes the investigation and analysis leading to the recommendation of the new tariff for Luganville. Interested persons are encouraged to read this document in full before making comments on the Preliminary Decision.

1.3 Background

This case in the matter of a tariff adjustment for Luganville is an opportunity to resolve several outstanding issues regarding the electricity price in Luganville. Since 2010, there have been several events that have impacted the conditions of operation in Luganville, including the 2010 URA electricity tariff review Order, the expiration of UNELCO's concession in Luganville, the assignment of operations to VUI, the arbitration ruling for UNELCO's tariff, and an interim change in April 2011 to the tariff structure in Luganville. The net result is two-fold: First, the current electricity tariff in Luganville does not reflect the cost of its operations. Second, concern expressed by utilities, customers and government around electricity pricing in Luganville. URA believes that a potential exists for price reduction in Luganville. The aims of the current review are to link prices to the current conditions in Luganville, and to satisfy concerns of interested parties.

One characteristic of the current situation is that electricity prices are not uniform across the four electricity networks since Luganville operations were separated from other three systems: Port Vila, Malekula and Tanna. As a result of a different base price, and the interim change to the Luganville tariff structure in 2011, customers pay a lower price on average in Luganville than in the other three networks (a uniform price still applies across UNELCO's networks). In some previous URA analysis, suggestions were made to establish a mechanism of payments between operators to equalize prices. In the URA's view, such an arrangement

would be unworkable and the price for each operator should relate to their own operational conditions to the extent practical.

Another aspect of electricity pricing that has changed since 2010 is the cessation of the Sarakata Special Reserve Fund. The Fund was intended for the overall benefit of consumers in Vanuatu such as providing new connections to low income customers. If the Government wishes to maintain a similar Fund from revenues generated from Luganville electricity customers through such a mechanism, then this should be raised during the consultations in this case. The URA shall work with the Government to ensure such a mechanism and fund is equitably established for all customers of Vanuatu.

1.4 Case chronology

Table 5: Case chronology

Date	Activity
28th November 2013	Vanuatu Utilities and Infrastructures Limited (VUI) submitted a written request to the URA to decrease the current base rate for electricity services in Luganville by VUV 3.46/kWh. VUI submitted that the tariff adjustment was necessary to reflect recent efficiency improvements made in the Sarakata Hydro power plant since assuming management of the Luganville Electricity distribution system in January 2011. VUI also requested to eliminate or suspend the current monthly cost adjustment clause in the tariffs for the next year. The Commission assigned the URA Staff to review the Application, gather the required information, and conduct appropriate analysis to investigate the matter and make its recommendation for a new tariff.
3rd December 2013	URA advised VUI that the URA Staff will undertake an investigation and develop its recommendations for the Commission consideration. A rate case was initiated and referenced as case U-0001-14. The case was assigned to Project Manager Maureen Malas as case coordinator, assisted by Principal Finance Specialist Olivier Fernandez.
4th December 2013	A request for technical and financial data was sent by the URA Staff to the VUI General Manager. The data request was discussed with VUI for clarification, availability, time frame for submission, etc.
10th December 2013	URA Staff submitted a plan for the Case with an expected timeline to the URA Commission, and shared with VUI.
10-19th December 2013	VUI provided to the URA Staff the requested data and information
10th December 2013 to 10th January 2014	Based on information received from VUI, the Staff designed a Revenue Requirements and tariff model of the VUI operations to incorporate recent generation and distribution efficiency gains and the current cost and revenue collection structure to determine a base tariff applicable for 2014. Staff has indicated that in its analysis it has tended to be conservative so as to maintain high reliability and sustainable financial and operating performance by VUI.

7th January 2014	URA Staff submitted a report of its investigation, analysis and recommendations to the Commission.
15th January 2014	The URA Commission issued its Preliminary Decision, adopting the recommendations contained in the Staff Report and Recommendations.
29-30th January 2014	Public meetings to be held in Luganville
7th February 2014	Deadline for submission of written comments

1.5 Legal context

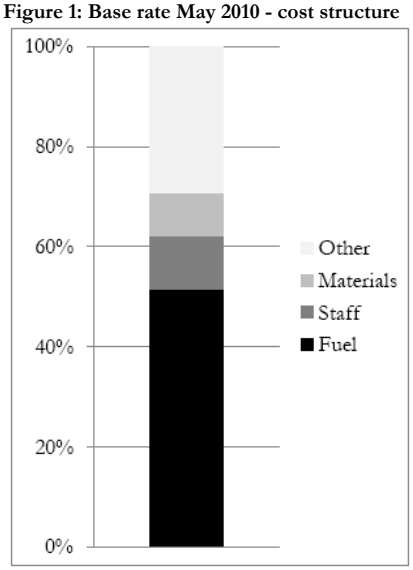
The legislation governing the generation, supply and sale of electricity in Luganville is established by the Electricity Supply Act (NO.13 of 2010), the Utilities Regulatory Authority Act (NO.11 of 2007) and the Memorandum of Understanding (MOU) entered into between the Government of Vanuatu and VUI in January 2011.

2. Tariff recommendations

2.1 Current base rate and tariff structure

The current base rate for electricity services in Luganville was established by the Final Decision of the URA Commission in May 2010. This base rate was calculated as an average across the four electric systems in Port Vila, Tanna, Malekula and Luganville, as at that time all four systems were operated by the same utility. In January 2011, Luganville operations were separated from the other systems and assigned to VUI, pursuant to the MOU between GOV and VUI signed in January 2011. This MOU did not stipulate any change in tariffs, and so the previously approved base rate continued to apply. Thus the current VUI base rate is not based on the operating circumstances of VUI in Luganville.

Figure 1: Base rate May 2010 - cost structure



Base rate in May 2010 = 47.17 vatu

- Other costs (including reasonable return) 29%
- Materials 9%
- Staff 11%
- Fuel 51%

Each month, the base rate is adjusted to account for fluctuations in diesel fuel prices and certain other operating costs. Based on this, the VUI base rate for December 2013 was 54.76 vatu/kwh. The significant increase in the base rate is mainly due to increases in diesel fuel prices since May 2010.

The customer tariff structure was updated in July 2011. Customer charges are calculated from the base rate according to the table below.

Table 6: Calculation of customer charges from base rate (P)

Customer category	Price per kWh	Monthly fixed charge	Security deposit
Low Voltage*	Up to 60 kWh = 0.38 x P 61 to 120 kWh= 0.97 x P 121 to 180 kWh =1.80 x P Over 180 kWh = 1.10 x P	None	70 x P for customers up to 2.2 kVA. 150 x P per subscribed kVA for all other customers
Sports Fields	1.00 x P	None	None
Public Lighting	0.54 x P	None	None
High Voltage	0.70 x P	25 x P per subscribed kVA	150 x P per subscribed kVA

*: including small domestic, business license holders, and other low voltage customers

2.2 Test year and methodology

This is not a full review of the tariff in Luganville; rather, this is an interim adjustment in order to pass the benefits of improvements in generation efficiency on to customers, and to more closely reflect the operational circumstances in Luganville in the electricity price. Therefore, the methodology used has focused on a review of the generation mix and the actual operating costs of VUI since the start of 2011. This methodology is specific to this case. The next full electricity tariff review will examine all the elements of electricity in more detail.

Since the tariffs are being designed to be implemented for 2014, the Staff selected 2014 as the test year. In order to forecast demand, generation requirements, system efficiency and operating costs applicable for 2014, the Staff analysed past operating performance data across years 2010-2013 of Luganville electricity system. Any abnormal operating conditions in historic periods were adjusted in arriving at the projected numbers.

The URA also notes that the MOU arrangement that has been in place since 2011 was originally intended as a temporary measure leading to the signing of a concession agreement with VUI. When and if such a concession agreement is signed, the URA intends to review the tariff level again to ensure that it reflects the terms of the Concession that may impact operational and financial circumstances of the electricity network in Luganville.

In this respect we note that in a normal tariff review the URA will recognize the estimated assets dedicated by the owner (in this case the Government) to the Luganville electricity system. This estimated asset base would be depreciated and earns a return (i.e. profit) as the Government's invested capital. Alternatively if there is a provision of a royalty payment to the Grantor it would be recognized in tariff setting.

3. Demand Forecast

3.1 Data acquisition

Historical data for total demand of electricity in Luganville was already available to the Staff for the period starting January 2006 ending November 2013 from both the material submitted for the 2010 rate case, and the technical data provided by the utilities for monthly tariff adjustments.

The breakdown per customer category was available for the period starting January 2006 to December 2009 from the material submitted in the 2010 rate case. However the revision of the retail tariff structure in 2011, modifying the customer categories and billing tranches, restricted the analysis per customer category to the late period starting August 2011 to November 2013. The data were provided by VUI as part of the material submitted for this case.

In addition, VUI was requested to provide proxy numbers for the months where actual data was unavailable, for 2013.

3.2 Analysis and findings

URA staff conducted an analysis of the available data by customer category to test if any trends could be identified to indicate a change in the customer mix. No particular trend was observed, and so a uniform growth rate has been applied across all customer groups.

An average annual growth rate in total kWh sold (adjusted for max/min values) of 3.9% was observed for the demand of electricity through the period 2006-2013. This compares to a rate of 2.4% per year over the last two years.

Staff noted the ongoing discussions around the potential introduction of a subsidy scheme to connect new customers through the Global Partnership Output Based Aid (GPOBA) programme. The proposed project is intended to facilitate access to electricity by subsidizing the cost of connection for low income customers. This is expected to support the growth in residential consumer usage over the next several years. Although the project has not yet been finalised, recent updates indicate that customers will benefit from the subsidised offer starting in early 2014.

Based on observations of historical trends and factoring for potential increased connection rates from the GPOBA project, the Staff has assumed a growth rate for 2014 of 3%. This translates into an overall customer energy demand of 8,165,347 kWh.

Table 7: Demand forecast

	2011	2012	2013	2014
Growth from previous year	10.7%	2.4%	2.4%	**3.0%**
Total kWh demand	7,557,895	7,739,697	7,927,521	**8,165,347**

4. Generation mix

4.1 Data

Historical technical data were available from monthly tariff adjustment reporting for the period starting January 2011 ending November 2013. December 2013 was estimated by the Staff based on historical average for the last year of operations. Historical technical data for the period starting January 2006 ending December 2010 were also available from UNELCO's monthly tariff adjustment material.

The technical data used to compare the actual generation efficiency to the levels factored into the base price were recovered from the May 2010 rate case model.

4.2 System losses

System losses are a result of the transmission and distribution of electricity, metering errors, and generator's own energy needs. Typically these are technical losses. Often there is some leakage due to theft and pilferage, customer bypassing the meter, etc. This unauthorized use is considered non-technical or commercial losses. Losses are expressed as percentage of energy generated or 'send out'. In order to determine the generation requirements to satisfy the forecast demand, the Staff had first to estimate the applicable loss rate for 2014. In the context of a full tariff review, the Staff would seek to perform a detailed review of system losses based on an efficient network with comparisons to international benchmarks. In the context of this interim tariff adjustment, however, historical losses have been used. A cursory review of VUI's reported losses seem to suggest that it falls within an acceptable range when compared to other regional small utilities.

Historical data showed an average loss of 12.46% since 2011 for Luganville. This compares to 9.16% losses assumed in the May 2010 rate case. For 2014, the system losses have been assumed to be equal to the average rate since 2011, i.e. 12.46%. Applying this to our demand forecast results in a total generation requirement of 9,327,276 kWh for the year 2014 as shown below:

Table 8: System losses and generation requirement

	2011	2012	2013	2014
System loss rate	12.54%	12.38%	12.45%	**12.46%**
Generation requirement, kWh	8,641,220	8,833,560	9,055,301	**9,327,276**

4.3 Hydro generation

The Sarakata hydroelectric power station consists of 2 x 300 kW and 1 x 600 kW turbines for a total installed capacity of 1,200 kW. To calculate the hydro utilization rate in the energy mix, the number of kWh generated by the hydro plant are divided by its theoretical maximum generation capacity obtained by multiplying the nominal installed capacity expressed in kW by the number of hours of operation over the appropriate timeframe.

The data recorded for the last two years of operation showed an average utilization rate of 69% or a total output of 7,331,330 kWh per year. It compares to an average utilization rate of 53% or a total output of 5,614,000 kWh per year as assumed in the May 2010 rate case model. This is an approximate 30% increase in hydro generation, compared to the utilization rate assumed in May 2010 base case and current tariff. This is consistent with VUI's claim that there has been a significant increase in the availability and utilization of the hydropower plant.

For the 2014 forecast, an average utilization rate of 69% has been assumed, giving a total amount of 7,300,000 kWh hydroelectric power in the energy mix. The URA Staff note that international benchmarks indicate that this assumption could be further increased, however this will be analysed in a future tariff review.

Table 9: Hydro utilization and generation

	2011	2012	2013	2014
Hydro utilization rate	59%	70%	69%	**69%**
Hydro generation, kWh	6,201,910	7,385,070	7,277,590	**7,300,000**

4.4 Diesel generation

The balance of energy required to match the demand in kWh in Luganville is generated by diesel engines. With an anticipated growth of demand, any incremental kWh will be supplied through diesel generation. Therefore the Staff has calculated the generation requirement from diesel generators by subtracting hydro generation from the total generation requirement. This assumes 2,027,276 kWh of diesel generation in 2014, which is a 14.47% increase from 2013. The high % increase is due to all incremental demand being met by diesel generation, while hydropower generation is assumed to remain constant.

Table 10: Diesel generation in kWh

	2011	2012	2013	2014
Diesel generation, kWh	2,439,140	1,448,490	1,773,137	**2,027,276**

5. Cost Structure

5.1 Data

Financial data for the years 2011, 2012 and 2013 were submitted by VUI as part of the material requested. The unaudited financial statement for 2013 was utilized and included proxy numbers for the month of December.

Economic data used in the model were sourced from the Ministry of Finance and Economic Management and the Vanuatu National Statistic Office website.

5.2 Operating cost

The operating cost comprises the following expenses incurred by VUI in the process of providing electricity services in Luganville:

- Labour
- Fuel and lubricants
- Goods and other costs
- Repair and renewal provisions
- Depreciation
- Insurance
- Provision for bad debt
- New installations

For each of the above, the staff has made estimates for 2014, accounting for inflation using the most recent year on year CPI rates available from VNSO (September 2013) whenever appropriate, or using historical averaged amounts.

5.2.1 Labour

Upon taking over operations in 2011, VUI claims that it has restructured the operations. After a significant reduction in labour costs in the first year, labour costs have stabilized. Therefore, the Staff finds it reasonable to assume the labour costs will move in line with CPI of 2.2%. The URA Staff estimates labour costs of 119,140,214 vatu for 2014.

Table 11: Labour costs forecast

	2011	2012	2013	2014
Labour costs, vatu	130,512,313	111,990,208	116,575,552	**119,140,214**

5.2.2 Fuel and lubricants

Assuming a 3.0% growth in demand and the hydropower plant operating at the forecasted utilization, incremental demand in 2014 will be met by diesel generation resulting in increase in the cost of fuel and lubricants.

Fuel and lubricant use per kWh remained stable over the last three years with a stable heat rate of 0.287 liters per kWh. The Staff has assumed that fuel and lubricant costs will increase proportionally with the increase in diesel generation, i.e. a growth rate of 14.47%. The Staff notes that this assumes a similar average price of fuel and lubricants as in 2013 (the average price of a litre of diesel reported by VUI in 2013 was 122.54 vatu). The Staff note that the price paid for diesel by VUI appears to be significantly higher than that reported by UNELCO.

Table 12: Fuel and lubricant costs forecast

	2011	2012	2013	2014
Fuel and lubricant costs, vatu	74,523,111	47,314,396	55,976,812	**64,074,343**

The Staff also notes that it has not performed an independent analysis of whether the heat rate of 0.287 litres per kWh is an optimal rate. Further investigation will be undertaken during the next full rate review.

5.2.3 Goods and other costs

Goods and other costs varied between 39,744,885 vatu and 52,391,194 vatu over the observed period, with no clear trend. The Staff has established its forecast using the historical average and set the amount for 2014 at 45,065,453 vatu.

Table 13: Goods and other costs forecast

	2011	2012	2013	2014
Goods and other costs, vatu	43,060,279	52,391,194	39,744,885	**45,065,453**

5.2.4 Repair and renewal provisions

The Repair and renewal provisions varied between 29,309,559 vatu and 39,725,309 vatu over the observed period, with no clear trend. The Staff has established its forecast using the historical average and set the amount for 2014 at 33,105,994 vatu.

Table 14: Repair and renewal provisions forecast

	2011	2012	2013	2014
Repair and renewal provisions, vatu	29,309,559	39,725,309	30,283,113	**33,105,994**

5.2.5 Depreciation

Under the terms of the MOU, VUI depreciation is limited to office equipment and uses 5 years straight line method. Depreciation expenses increased from 2012 to 2013 and based on analysis, the Staff has assumed additional investments in 2014 of 3,500,000 vatu. This results in an increase of annual depreciation expense by 700,000 vatu**.** The total allocation for depreciation expenses in 2014 is therefore assumed to be 2,914,239 vatu.

Table 15: Depreciation forecast

	2011	2012	2013	2014
Depreciation, vatu	829,247	1,863,822	2,214,239	**2,914,239**

5.2.6 Insurance

Insurance expenses followed a decreasing trend over the past three years although the trend slowed down year on year. It is the Staff's view that in the absence of any significant development, the costs for insurance should remain stable; therefore it has been assumed to be 18,000,000 vatu for the year 2014, approximately in line with the previous year. The Staff believes that the insurance expenses still appear to be high and should be carefully reviewed by VUI. Staff requests that VUI provide further details on its insurance plans.

Table 16: Insurance expenses forecast

	2011	2012	2013	2014
Insurance costs, vatu	23,071,105	18,419,329	17,846,946	**18,000,000**

5.2.7 Provisions for bad debts

Based on information received from VUI, the Staff questioned the significant increase in the provisions from 2012 to 2013. VUI provided explanations pointing out that the increase represented unpaid bills from the Municipal council, the Police and Vanuatu Military Force based in Luganville, all falling under the responsibility of the Government. Although VUI expects no improvement for 2014, it is the Staff's view that the customers should not be penalised for non-payment of other customers, including Government. VUI should take appropriate steps for collections and apply the established rules to its non-paying customers. The Staff has applied the rate historically assumed for other concessions, which is 0.5% of the billable revenues from the sales of electricity. VUI is requested to continue to provide annual data on bad debts and continue efforts taken to reduce un-collectibles.

Table 17: Provisions for bad debt forecast

	2011	2012	2013	2014
Provisions for bad debts, vatu	1,479,672	944,226	10,654,886	**1,800,000**

5.3 New installations

Under the terms of the MOU, VUI must expense all capital investments, meaning that the entire cost is accounted for in the year the expenditure is incurred. In order to maintain a program of new customer connections, these expenses have been incurred since the start of the MOU. For the purposes of rate-setting, Staff has assumed a cost level for 2014 to be 15,000,000 vatu.

Table 18: New installations forecast

	2011	2012	2013	2014
Cost of new installations, vatu	8,923,518	15,990,445	13,232,771	**15,000,000**

5.4 Management fee

Under the MOU agreement, VUI is entitled to a management fee of USD 30,000 per man-month. No minimum or maximum man-months are stipulated in the MOU. The Staff recognizes that taking over the Luganville system operations required transitional assistance from Pernix Group, the VUI's home office and its affiliates in 2011. The management fee charged by VUI has remained approximately the same for 2012 and 2013.

To get a better understanding of how the management fees were calculated, the Staff requested additional information from VUI about how the management was calculated since the start of the MOU. VUI has provided data for the years 2011 to 2013 indicating personnel and days allocated to each person by month. The data is then summarised in total man-months by month. Besides the General Manager, the job titles or descriptions of other personnel are not indicated.

An initial analysis suggests that the total man-months allocated to management services have declined from 5 per month in 2011 to a range of 2-3 per month in 2013. This reduction appears to be reasonable. The Staff believes, however, that auxiliary personnel may have lower levels of responsibilities and do not necessarily justify the same man-month fee as the General Manager. The Staff believes it would be fairer for VUI to adopt some weighting system adjusting for the role and level of responsibility of the assigned management staff.

The Staff recognises the need to further analyse the quantity and level of management and supervision reasonably required for the Luganville operations in a future rate review; for ratemaking purposes it recommends a cap of 20 man-months for 2014. This translates into USD 600,000, which, using a current conversion rate of 95 VUV/USD, results in a total management fee of 57,000,000 vatu for 2014. This fee amounts to about 19% of the cost of operations. The Staff also believes that for regulatory ratemaking purposes management fees should bear some relationships to the size of operations and the total revenues generated by the system. Staff would like to discuss the issue with VUI during the consultation period to arrive at a satisfactory and reasonable provision for the management fee in this case. The Staff also intend to review how other incidental costs of management staff are accounted for since the man-month fee is supposed to be all-inclusive.

Table 19: Management fee forecast

	2011	2012	2013	2014
Management fee, vatu	90,513,705	67,573,745	68,149,965	**57,000,000**

5.5 Regulatory expenses

It is normal practice that in a regulated market the costs of regulation (i.e. the operating expenses of the statutorily established regulatory body) be raised from the industry being regulated. To date in Vanuatu, the URA has been funded by donor grants and from the Government budget. This is an interim and ad hoc arrangement. A permanent sustainable funding mechanism for the URA needs to be established. It is proposed that the URA be funded by the regulated utilities. Such regulatory costs are a legitimate utility expense and should be treated as a component of the utilities cost of service. URA staff will develop and propose such a sustainable financing mechanism for adoption by the Commission in 2015. As these arrangements are still to be defined, regulatory expenses are assumed to be zero for 2014.

5.6 Total cost

Based on the analysis outlined above, the Staff has estimated the total cost of service including management fee to be 356,100,242 vatu for the supply of electricity services in Luganville in 2014, given the terms of the MOU.

Table 20: Cost structure breakdown

Item	2011	2012	2013	2014
Labour	130,512,313	111,990,208	116,575,552	**119,140,214**
Fuel and lubricant	74,523,111	47,314,396	55,976,812	**64,074,343**
Goods and other costs	43,060,279	52,391,194	39,744,885	**45,065,453**
Repair & renewal provisions	29,309,559	39,725,309	30,283,113	**33,105,994**
Depreciation	829,247	1,863,822	2,214,239	**2,914,239**
Insurance	23,071,105	18,419,329	17,846,946	**18,000,000**
Provision for bad debts	1,479,672	944,226	10,654,886	**1,800,000**
New installations	8,923,518	15,990,445	13,232,771	**15,000,000**
Management fee	90,513,705	67,573,745	68,149,965	**57,000,000**
Regulatory expenses				**0**
Total cost	402,222,509	356,212,674	354,679,169	**356,100,242**

6. Retail Tariff Structure

6.1 Data

The data related to the tariff structure is sourced from the *"Luganville Electricity Tariff Setting Draft Determination Stage 2"* released by the Commission in June 2011.

6.2 Tariff structure

As this is a limited tariff review case, the existing customer categories and structure (i.e. relative rates) outlined in the following table will remain in place:

Table 21: Current retail tariff structure

Customer group	Price per kWh	Monthly fixed charge	Security deposit
Interim Low Voltage	Up to 60 kWh = 0.38 x P 61 to 120 kWh = 0.97 x P 121 to 180 kWh = 1.80 x P Over 180 kWh = 1.10 x P	None	70 x P for customers up to 2.2 kVA subscribed load 150 x P x per subscribed kVA for all other customers
Sports Fields	1.00 x P	None	None
Public Lighting	0.54 x P	None	None
High Voltage Users	0.70 x P	25 x P per subscribed kVA	150 x P per subscribed kVA

The URA intends to review this tariff structure at the next full tariff review. Therefore, VUI is advised to collect accurate billing data within each consumption block and for each customer category.

7. Adjusted base rate

7.1 Required revenue

In order for the utility to be able to cover all of its projected costs, the 2014 required revenue should equal the forecasted cost of operations, plus the management fee.

Based on the financial statements submitted by VUI, revenues are collected in four categories:

- Electricity sales
- Revenue from sales of services and connections
- Revenue from other regulated services including penalties for disconnection/reconnection
- Revenue from third parties and donor contributions

The electricity tariff is based on the total revenue required less the non-electricity sales revenues.

1.1.1 Non-electricity sales revenues

The Staff decided to use the level of revenue collected in 2013 as a proxy for 2014, for the two categories, *"Revenue from sales of services and connections"* and *"Revenue from other regulated services including penalties for disconnection/reconnection"* respectively.

For the third category "*Revenue from third parties and donor contributions"* it is the Staff's view that, unless existing agreements have been established between VUI and donors or third parties, such revenues are unknown, and are generally targeted to cover specific expenses not covered under normal operations. Therefore, the Staff has assumed zero for this category for ratemaking purposes for 2014. It is assumed that when the GPOBA project is implemented, it will be overall cost neutral.

Table 22: Other revenue forecast in VUV

Item	2011	2012	2013	2014
Revenue from sales of services and connections including groundwork	17,470,180	10,086,781	5,790,886	**5,790,886**
Revenue from other regulated services including penalties for disconnection/reconnection	3,735,802	1,761,845	1,185,374	**1,185,374**
Revenue from third parties and donors contribution	1,861,355	11,239,746	1,545,020	**0**
Total other revenues	23,067,337	23,088,372	8,521,280	**6,976,260**

7.1.1 Revenue from sales of electricity

The Staff has determined the revenue required from sales of electricity through the following equation:

$$Revenue\ required\ from\ sales\ of\ electricity = (Cost\ of\ operations + Management\ fee) - (Other\ revenues)$$

The revenue to be collected from the sales of electricity for 2014 is forecast to be 349,123,982 vatu as outlined in the following table:

Table 23: Revenue from sales of electricity calculation in VUV

Item	2014
Operating costs	299,100,242
Management fee	57,000,000
Revenue from sales of services and connections including groundwork	(5,790,886)
Revenue from other regulated services including penalties for disconnection/reconnection	(1,185,374)
Required revenue from sales of electricity	**349,123,982**

7.2 Recommended base rate

1.1.2 Demand Weighting Coefficient

The base rate is set as an average revenue requirement in vatu/kWh. However, all kWh sold are not charged at the same price. The current retail tariff structure is designed with different prices charged for different levels of consumption and across different customer categories, in multipliers of the base rate. For example, for low-voltage customers, the first tranche (0-60kWh) is charged at 0.38 x base rate; electricity sold in the third tranche (120-180kWhs) is charged at 1.8 x base rate. Due to the distribution of consumption across the tariff blocks, and the tariff structure, the average revenue produced per kWh does not equal the required revenue per kWh, and for VUI has fallen short over the last three years.

In order to calculate the base rate that would generate the required revenue from sales of electricity, an adjustment should be made by computing a Demand Weighting Coefficient (DWC). This has been calculated by comparing the historic revenue collected from sales of electricity to the historic base rate multiplied by the kWh sold.

$$Demand\ Weighting\ Coefficient = \frac{Revenue\ collected\ from\ sales\ of\ electricity}{(Weighted\ averaged\ base\ rate \times kWh\ sold)}$$

(N.b. For a more accurate estimate total revenue billed should be used instead of total revenue collected, but this data was not available)

The Staff's findings are that an average DWC of 0.93 should be applied to the required revenue per kWh to arrive at the final base rate, as outlined in the table below:

Table 24: Demand Weighting Coefficient calculation

Item	2011	2012	2013	2014
Revenue from sales of electricity, vatu	363,987,799	376,378,239	408,207,101*	
Weighted average base rate, vatu	52.50	53.71	53.95	
Sales of electricity in kWh	7,557,895	7,739,697	7,927,521	
Demand Weighting Coefficient	0.92	0.91	0.95	**0.93**

** The sales for the year were adjusted for excessive bad debts and under-collection.*

7.2.1 Proposed base rate

The final step consists in dividing the required revenue from sales of electricity by the forecast sales of electricity in kWh, and then adjusting according to the Demand Weighting Coefficient.

Table 25: Proposed base rate calculation

Item	2014
Required revenue from sales of electricity in VUV	349,123,982
Forecast sales of electricity in kWh	8,165,347
Required revenue per kWh sold	42.76
Demand Weighting Coefficient	0.93
Recommended base rate in VUV	**46.17**

The Staff recommends setting the base rate for the provision of electricity services by VUI in Luganville for 2014 at:

VUV 46.17/kWh

This is a reduction of **15.70%** from the base rate determined in December 2013. This new base rate will be applied to compute the revised tariff in each block, maintaining the same tariff structure.

7.3 New customer tariff

The new customer tariff for each customer category is shown in the table below:

Table 26: Comparison of customer charges

Customer category	Charge	Tariff of Dec-2013	New Tariff	Change
Low Voltage (including small domestic, business license holders, and other low voltage customers)	Unit charge per kWh Up to 60 kWh 61-120 kWh 121-180 kWh Over 180 kWh	 20.81 vatu per kWh 53.12 vatu per kWh 98.57 vatu per kWh 60.24 vatu per kWh	 17.54 vatu per kWh 44.78 vatu per kWh 83.10 vatu per kWh 50.78 vatu per kWh	 -15.70% -15.70% -15.70% -15.70%
	Monthly fixed charge	None	None	None
	Security deposit for new connections	3,833 vatu for connections up to 2.2kVA 8,214 vatu per subscribed kVA for connections over 2.2 kVA	3,231 vatu for connections up to 2.2kVA 6,924 vatu per subscribed kVA for connections over 2.2 kVA	-15.70%
Sports Fields	Unit charge per kWh	54.76 vatu per kWh	46.17 vatu per kWh	-15.70%
	Monthly fixed charge	None	None	None
	Security deposit for new connections	None	None	None
Public Lighting	Unit charge per kWh	29.57 vatu per kWh	24.93 vatu per kWh	-15.70%
	Monthly fixed charge	None	None	None
	Security deposit for new connections	None	None	None
High Voltage	Unit charge	38.33 vatu per kWh	32.32 vatu per kWh	-15.70%
	Monthly fixed charge	1,369 vatu per subscribed kVA	1,154 vatu per subscribed kVA	-15.70%
	Security deposit for new connections	8,214 vatu per subscribed kVA	6,924 vatu per subscribed kVA	-15.70%

8. Funds for electricity-related projects

The previous concession contract in Luganville, which expired at the end of 2010, made provision for a payment to be made to the Government for electricity-related projects, the Sarakata Special Reserve Fund. No such provisions for special funds are currently included in the MOU with VUI. Any excess operating income will be transferred to the Government upon the conclusion of the MOU. The URA Staff recommends that the URA and Government work together to clarify if such an arrangement should be established going forward. In that case, the appropriate and fair level of funding to be paid by customers in Luganville should be defined. Such a funding arrangement should also require proper governance and monitoring arrangements. The Staff recommends that such a mechanism, if adopted, should be applicable to all Vanuatu electricity customers.

8.1 Example funding mechanism

Any funding sequestered from electricity customers to the Government will have an impact on the customer tariff. The table below shows the impact of different funding levels on the customer tariff.

Table 27: Example levels of funding for electricity-related projects

Base tariff impact	% tariff impact	Funds raised
1 vatu	+2.2%	7,562,464
2 vatu	+4.3%	15,124,928
5 vatu	+10.9%	37,812,321

The figures in the table above are based on revenue generated from customers in Luganville only.

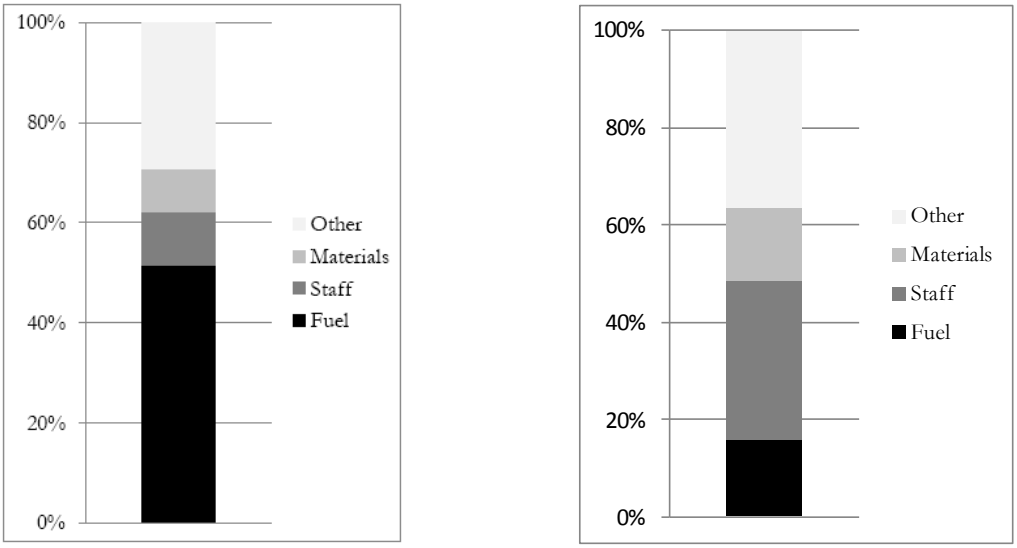
9. Tariff Adjustment Mechanism

9.1 Background

In addition to the request to reduce the base tariff, VUI's application also suggests that the monthly base rate adjustment mechanism be eliminated, and in its place an annual adjustment for generation cost changes be adopted.

The Staff compared the cost structure assumed in the May 2010 Decision to the VUI's current cost structure and observed a significant reduction in the fuel cost component of the operating costs from 50% to less than 20%. This lower exposure to the risk of fuel cost fluctuations removes the need for frequent price changes.

Figure 2: Comparison between the May 2010 base rate breakdown and the current cost structure



The Staff recommends the suspension of the monthly adjustment formula. In its place, an annual review and reconciliation of the actual costs of generation against the forecasted costs may be implemented. At the end of each year, the Staff will review the actual costs, and recommend an appropriate tariff adjustment for the subsequent period in order to balance out any under or over-collections. This mechanism may apply if the differential in generation costs exceeds +/- 5%. If the reconciliation mechanism is pre-approved by the Commission in the Final Order in this case then any adjustment in tariffs pursuant to the mechanism would not be considered as retroactive. If adopted, the baseline for generation cost comparisons shall be established in the Final Order.

Utilities Regulatory Authority

Vanuatu

You can access the U-0001-14 Preliminary Decision January 2014 on our website www.ura.gov.vu; or by contacting us by telephone (+678) 23335, email: breuben@ura.gov.vu or regular mail at U-0001-14 Utilities Regulatory Authority, PMB 9093, Port Vila, Vanuatu.