



TARIFF REVIEW REPORT FOR 2017

1. INTRODUCTION

1.1 Background

Before the end of each Tariff Year, the Electricity Regulatory Authority (“the Authority”) undertakes an annual Tariff Review for the subsequent Tariff Year. In accordance with the Tariff Methodologies in the respective Licenses, the Tariff Review Adjustment Methodology, and the Electricity (Application for Permit, License and Tariff Review) Regulations, 2007, the Authority has undertaken the Tariff Review for 2017.

1.2 2017 Tariff and Budget Submissions

At the end of October 2016, Umeme Limited submitted its proposal for the 2017 Tariff Review in accordance with the provisions of its Licenses for Supply and Distribution of electricity. In November 2016, Eskom Uganda Limited submitted its proposals for the 2017 Tariff Review in accordance with the provisions of its License. Uganda Electricity Transmission Company Limited (UETCL) submitted its application for the Multi-Year Tariff for the period 2017 to 2019 in accordance with the provisions of the Bulk Supply License. Uganda Electricity Generation Company Limited (UEGCL) and Uganda Electricity Distribution Company Limited (UEDCL) submitted their budgets in accordance with the provisions of their Licenses. The specific dates of submission of the applications are indicated in Table 1.

Table 1: Licensee Dates of Submission of 2017 Tariff Applications

Company/Licensee	Date of submission
Umeme Limited	30 th October 2016
UETCL	13 th October 2016 and 8 th November 2016
Eskom Uganda Limited	8 th November 2016
UEDCL	28 th October 2016
UEGCL	28 th October 2016

Much as the companies submitted information on the dates stated in Table 1, there was need to revert to the companies on a number of occasions for clarification, additional information and verification. After receipt of all the relevant information, the Tariff Review process commenced.

1.3 Review Process

The review process commenced with the publication of the applications in the Daily Monitor and New Vision newspapers on 4th November 2016. Key stakeholders and the general public were invited to view the applications and submit their comments. For the 15 days for which the applications were available for public scrutiny, the Authority did not receive any comments and or objections to the applications.

On 23rd November 2016, the Authority advertised in the New Vision newspaper inviting key stakeholders and the general public to a Public Hearing/consultation in respect of the 2017 tariff applications. The Hearing was held on 9th December 2016 at the Imperial Royale Hotel Kampala. Through the consultation process, the licensees made presentations of their applications to key stakeholders and the general public. A wide range of tariff issues to be considered in the 2017 tariffs were presented and discussed.

The Authority has undertaken consultation with the Ministry of Finance, Planning and Economic Development, the Ministry of Energy and Mineral Development, Uganda Manufacturers Association and the media. Specifically, the Authority explained to stakeholders the drivers underlying the tariff determination for 2017.

Therefore, in arriving at its determination, the Authority has taken into account the views and submissions from all stakeholders including licensees, who submitted written comments and those who participated in the public consultations.

1.4 Tariff review major assumptions

The 2017 annual Tariff Review has been carried out in consideration of the following major factors/assumptions;

- a) The Quarterly Tariff Reviews in accordance with the approved methodology implemented by the Authority in 2014, 2015 and 2016 that adjust the base tariff for changes in macroeconomic factors of inflation, exchange rate and fuel prices will continue to be implemented in 2017.
- b) Government of Uganda will continue paying capacity payments to the thermal plants in 2017 estimated at USh 65.20 billion. Further, debt service to Uganda Electricity Board (UEB) successor companies (UEGCL, UETCL and UEDCL) will not be financed through the tariff.
- c) Electricity demand is expected to grow at an annual rate of 6.5% in 2017. The total energy purchased by UETCL is expected to increase from 3,505.8 GWh in 2016 to 3,771.8 GWh in 2017.
- d) The water release at the Nalubaale/Kiira generation complex is projected at 900 Cubic meters per second (cumecs) for 2017, translating into an average generation capacity of 150 MW from Nalubaale/Kiira and 173.5 MW from Bujagali Energy Limited.
- e) The Uganda Shilling has depreciated against the United States Dollar from Ush/US\$ 3,375.64 used in the determination of the retail tariffs for the fourth quarter of 2016 to Ush/US\$ 3,630.22 by 30th November 2016. This represents a depreciation of 7.54%. The exchange rate has an effect on the Electricity Supply Industry financing and the resultant tariffs for 2017.
- f) Umeme Limited's gross capital investments have increased by US\$72.5 Million.
- g) The Generation Operations and Maintenance Costs for Eskom Uganda Limited have increased from US\$ 7.924 Million in 2016 to US\$ 9.286 Million in 2017.

- h) The Budget for Uganda Electricity Distribution Company Limited has increased from Ush 5,456.6 Million in 2016 to Ush 5,917 Million in 2017.
- i) The Budget for Uganda Electricity Generation Company Limited has decreased from Ush 8,627.3 Million in 2016 to Ush 6,519.7 Million in 2017.
- j) The average monthly capacity payment for Bujagali Energy Limited has increased from US\$ 13.854 Million in 2016 to US\$ 13.96 Million in 2017.
- k) No reconciliation for excess energy sales has been undertaken for 2017 compared to Ush 22,531 Million during the 2016 Tariff Review.
- l) There has been a re-categorization of Large Industrial Consumers to create the Extra-Large Industrial customer category.
- m) Umeme Limited's target Overall Distribution Loss Factor (LF) and the Total Un-collected Debt Factor (TUCF) for 2017 is 15.7% and 1.8% respectively, compared to 16.9% and 2.1% for 2016.
- n) Review of the UETCL Multi-Year Tariff resulted into increased Transmission Operation and Maintenance Costs from Ush 58,543 Million in 2016 to Ush 85,245 Million in 2017.
- o) Project costs of UETCL and UEGCL are treated as development costs and are not funded from the tariff.

1.5 Purpose of this Report

The purpose of this report is to present the results of the Authority's review of the Licensees' 2017 Tariff submissions and to set out the determinations and the reasons informing the determinations.

1.6 Structure of the Report

This report is divided into six (6) sections. The first four (4) sections of the report after this introduction focus on (i) review of the demand and generation from power plants, (ii) 2017 UETCL tariff submissions, (iii) review of the 2017 ESKOM tariff submissions, (iv) review of the 2017 UEGCL tariff submissions review of the 2017, (v) UMEME tariff submissions, and (vi) review of the 2017 UEDCL tariff submissions.

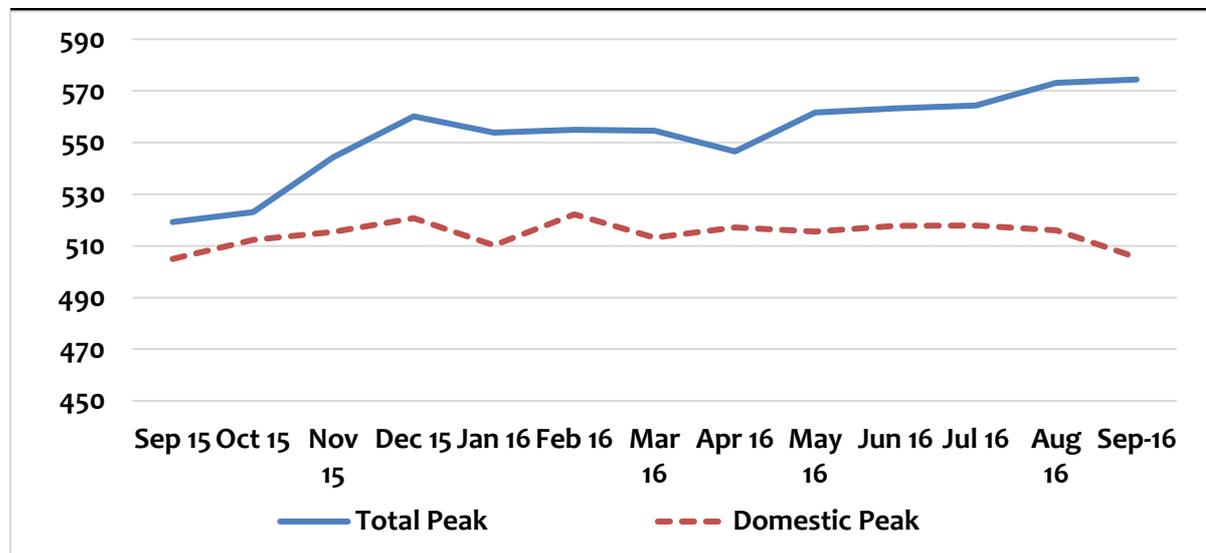
2. DEMAND ASSUMPTIONS

2.1. Maximum Demand

The maximum demand registered by the UETCL system is shown in Figure 1. The maximum demand including exports increased from 519 MW in September 2015 to 573 MW in September 2016. This growth represents a 10.4% increase in demand. This is mainly attributed to a more than usual request for dispatch from Kenya. The domestic sales on the other hand are observed to be relatively stable, ranging between 505 MW and 522 MW during the same period, representing very low growth in domestic demand in 2016.

In line with Bank of Uganda's (BOU) policy statement¹, domestic demand in the last twelve months has been relatively low. This also affected the overall demand for electricity. The outlook for 2017, however, points at a relative recovery in domestic demand following BOU's reduction in the Central Bank Rate (CBR) from 14% to 13% in October 2016.

Figure 1: Maximum Demand, September 2015 - September 2016



2.2 Energy purchases by UETCL

During the year 2016, a total of **3,505.8 GWh** is expected to be purchased by UETCL from the generation plants compared to **3,281.4**

¹ BOU policy statement is available at www.bou.org/

GWh purchased in 2015, representing a growth of about 6.4%. Based on 2016 demand growth, we expect this to be sustained in 2017.

This anticipated growth in demand of 6.4% in 2017 is lower than the 10% base case growth projected in the 2015 demand –supply balance report. The lower than anticipated growth is mainly due to constraints in the distribution infrastructure as well as lower than anticipated industrial/manufacturing activity during the year, combined with reduced consumption in the domestic customer category as a result of rolling out the prepaid meters, which have made consumers more sensitive to their energy consumption levels.

2.3 Energy Sales by UETCL

During the year 2017, a total of **3,771.8 GWh** is expected to be purchased by UETCL from the generation plants compared to 3,505.8 GWh purchased in 2016. This increase in energy purchases represents a 7.58% growth. This growth is noted to have been relatively higher than the projected growth rate of 7% that was expected for the projection for 2016. We note that the instability in Southern Sudan has contributed to reduction in demand for manufactured goods.

According to Bank of Uganda, the macro economic outlook for 2017 is expected to be positive with a Gross Domestic Product (GDP) growth rate of at least 4.8%. Considering this outlook, a relatively stable monetary policy and international market stability, it is projected that the annual growth rate in energy purchases by UETCL for the period 2017 will be around 7.58%. This growth includes sales in both the domestic and energy export market during the same period. It is therefore projected that the base energy purchases will be **3,771.8 GWh** for the year 2017.

The slow growth in peak demand is attributed to a number of factors including:

- a) The Authority revision of the Time of Use weighting factor from 120% to 130%. This was meant to incentivize large consumers especially manufacturers to shift from consuming at peak to other Time of Use periods. We have reviewed the effects of the response to the Time of Use weighting factor so far and noted a shift from peak to shoulder and off-peak Time of Use periods.

- In order to maintain the incentives for customers to shift from peak consumption to shoulder and off peak, the Authority maintained the peak Time of Use weighting factor at 130% in 2017.
- b) Slowdown in economic activity: The level of activity in the economy influences energy consumption. From 2013 to 2016, the growth in GDP has relatively averaged at 5.3%.
 - c) Energy Loss reduction: Notably, there has been steady reduction in energy losses by Umeme Limited leading to saving of more energy.
 - d) Constrained distribution network infrastructure and transformation capacity for manufacturers especially in the industrial parks have limited the capacity of industries to use more power.

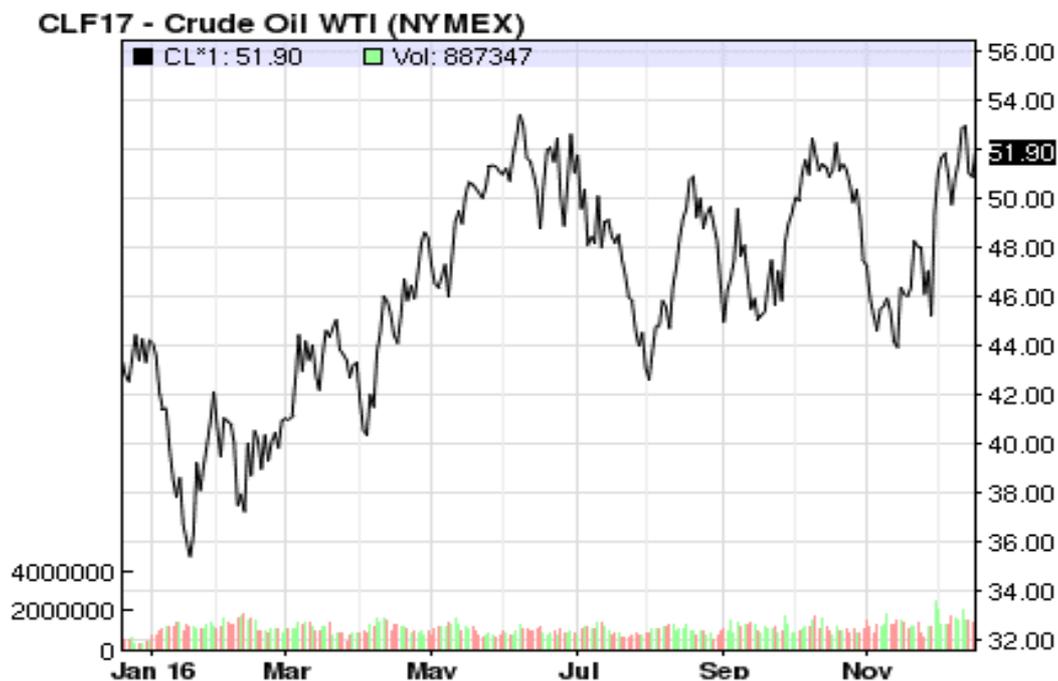
3. GENERATION ASSUMPTIONS

3.1 Oil Price Assumptions

In the 2016 Base Tariffs, the cost of crude oil assumed in the tariff determination was US\$ 44.3 per barrel – translating into USD 329.63 per metric ton of Heavy Fuel Oil (HFO). According to the Organization of Petroleum Exporting Countries (OPEC); as at end of November 2016, the international price of crude oil was US\$ 43.22 per barrel.

The drop in oil prices has been attributed to excess supply while demand has not grown in similar magnitude. As shown in Figure 2, the oil prices have been on a down ward trend from January to November 2016. According to NASDAQ, crude oil prices are expected to increase to an average of US\$ 51.90 per barrel, due to expected reduction in production.

Figure 2: Trend of crude oil prices January to November 2016



Source: <http://www.nasdaq.com/markets/crude-oil.aspx?timeframe=1y>

For the 2017 annual Tariff Review and based on the OPEC average price of crude oil in 2017, the cost of crude oil is estimated at US\$ 51.90 per barrel. Specifically, for Heavy Fuel Oil (HFO) that is used for electricity generation in Uganda, the price of USD 386.18 per metric ton is used in the 2017 Base Tariffs.

3.2 Energy purchases by UETCL from the Generation Power Plants

3.2.1 Eskom Uganda Ltd (380 MW)

UETCL projects that Eskom Uganda Limited will generate 1,437 GWh from the Kiira and Nalubaale Hydro Power Complex in 2016. In 2017, the water release at the Kiira-Naluubale complex is expected to be maintained at 900 Cumecs for the greater part of the year.

Considering an average water release of 900 Cumecs in the year 2017, Eskom Uganda Limited will operate on a capacity of 150 MW translating into 1,364.0 GWh in 2017. UETCL however retains the option to request for approval from the Directorate of Water Resources Management (DWRM) a higher water release at the Kiira and Nalubaale Hydro Power Complex in case the need arises.

The power purchase costs for Eskom Uganda Limited are expected to increase from Ush 50.2 Billion in 2016 to Ush 54.4 Million in 2017. The increase is mainly on account of the depreciation of the Uganda Shilling against the United States Dollar in 2016.

3.2.2 Bujagali Energy Limited (250 MW)

The plant in 2016 is expected to dispatch 1,541.4 GWh. This dispatch is a direct result of the water release at the complex which is around 112% more efficient than the Kiira-Nalubaale power plant operated by Eskom Uganda Limited. Bujagali Energy Limited conducts annual maintenance shutdowns from August to December every year, at the rate of one unit each month.

Considering the plant maintenance schedule and expected water release, the generation has been projected up to 1,520.0 GWh. This translates into an average capacity of 173.5 MW for the year.

The Bujagali Energy Limited power purchase costs are expected to reduce from Ush 582.5 Billion in 2016 to Ush 569.0 Billion in 2017 (excluding provision for payment of Corporate Income Taxes). The reduction in the purchase costs for Bujagali Energy Limited is arising from commencement of debt service for subordinated loans therefore reducing the interest expense.

3.2.3 Africa EMS Mpanga Ltd (18 MW)

The estimated generation from Africa EMS Mpanga is 51.2 GWh by the end of 2016. The country has been experiencing some unfavorable hydrology conditions in the second part of 2016. These conditions are likely to be the same for the first part of 2017 and therefore, we estimate that the plant will generate an average of 8.77 MW translating into total energy of 76.8 GWh in 2017.

The Authority approved a phased tariff for Africa EMS Mpanga of US cents 9/KWh for the first six years and US cents 6.66/KWh for the rest of the License period. The Power plant achieved Commercial Operations Date in March 2011. In March 2017, the Power Plant is expected to switch to Phase two of the Tariff Structure. The weighted average tariff for Africa EMS Mpanga in 2017 is US cents 7.24/KWh.

The power purchase costs are expected to increase from the estimated Ush 15.5 Billion in 2016 to USh 20.2 Billion in 2017. The increase is mainly on account of the expected increase in generation, and depreciation of the Uganda Shilling against the United States Dollar despite the downward adjustment of the generation tariff.

3.2.4 Bugoye Power Ltd – Bugoye (13 MW)

Bugoye Power Limited is expected to generate 59.8 GWh by the end of 2016. This is less than the 77.3 GWh that was generated in 2015. The lower generation is as a result of the unfavorable weather conditions that affected the hydrology. We project that the average dispatch in 2017 will be 9.2 MW translating into 80.6 GWh.

Accordingly, the power purchase costs for Bugoye Power are expected to increase from Ush 17.2 Billion in 2016 to an estimated Ush 25.5 Billion in 2017. The increase in power purchase costs is on account of increased generation from Bugoye Power Plant, depreciation of the Uganda Shilling against the United States Dollar and upward adjustment of the generation tariff for Consumer Price Index in accordance with the Tariff Methodology in the License. The effective/adjusted tariff for Bugoye power plant for 2017 is US cents 8.73/KWh.

3.2.5 Kasese Cobalt Company Ltd - KCCL (10.5 MW)

The power plant is expected to generate 53.1 GWh in 2016 compared to 61.2 GWh in 2015 on account of the poor hydrology. KCCL is projected to generate 63.1 GWh in 2017.

UETCL power purchase costs for KCCL energy are expected to increase from Ush 9.9 Billion in 2016 to Ush 13.1 Billion in 2017. The increase in power purchase costs is on account of increased generation from KCCL, upward adjustment of the generation tariff for Producer Price Index, and depreciation of the Uganda Shilling against the United States Dollar.

3.2.6 Tibet Hima Limited – KML (5 MW)

Mobuku 1 Hydropower Plant operated by Tibet Hima Limited (formerly Kilembe Mines Limited) has an installed capacity of 5 MW. Due to poor hydrology conditions, the plant is expected to generate 25.4 GWh up to the end of 2016. It is projected that the hydrology conditions will remain

the same in 2017. UETCL expects to dispatch this plant at an average capacity of 2.6 MW, translating into annual energy output of 21.9 GWh.

UETCL power purchase costs for KML are therefore expected to decrease from Ush 2.2 Billion in 2016 to Ush 1.9 Billion in 2017. The reduction in power purchase costs is mainly on account of the reduction in generation expected from the power plant.

3.2.7 Eco Power-Ishasha (6.5 MW)

Eco Power Ishasha Power Plant is estimated to generate 24.9 GWh by the end of 2016. In 2015, the plant experienced power evacuation challenges due to constraints in the Umeme network. Umeme in 2016, rehabilitated lines from Mbarara North substation to both Kabale and Rukungiri. We, therefore, expect that the plant will not experience any evacuation challenges in 2017. The plant is projected to dispatch at an average of 3.3 MW translating into 28.9 GWh from the plant in 2017.

The power purchase costs are expected to increase from Ush 6.6 Billion in 2016 to Ush 7.6 Billion in 2017. The increase in power purchase costs is on account of increased depreciation of the Uganda Shilling against the foreign currencies and increased generation/dispatch from the Power Plant.

3.2.8 Hydromax Ltd- Buseruka (9 MW)

The plant is expected to dispatch only 34.1 GWh by the end of 2016. This is as a result of lower hydrology as well as constraints in the power evacuation line. UETCL is expected to commission the Hoima substation in July 2017, which will help in the evacuation of the plant. It is therefore projected that the plant will dispatch at 6.3 MW translating into 55.8GWh.

The Power Purchase costs for Hydromax are expected to increase from Ush 11.2 Billion in 2016 to Ush 19.2 Billion in 2017. The increase in the power purchase costs is on account of the increase in energy generation and depreciation of the Uganda Shilling against the United States Dollar.

3.2.9 Muvumbe Hydro Power Plant (6.5 MW)

The project started construction in the fourth quarter of 2015. It is expected to be commissioned in the second quarter of 2017.

Muvumbe Hydro Plant is expected to generate 23.1 GWh in the year 2017. The low expected generation is because the plant will be commissioned in the second quarter of 2017 and will therefore not be generating for the whole of 2017.

UETCL is expected to incur power purchase costs amounting to Ush 7.9 Billion arising from energy purchases from Muvumbe Hydro Power Plant based on a generation tariff of US cents 9.4/Kwh as approved by the Authority.

3.2.10 Siti 1 Hydro Power Plant (5 MW)

Siti 1 Hydro Power Plant started construction in the third quarter of 2015. To date, 65% of the works have been completed. It is expected to be commissioned in April 2017. In 2017, 19.8GWh of energy is expected to be supplied to the grid. The energy to be generated is based on the installed capacity, the plant factor and expected days of generation in 2017.

UETCL is expected to incur power purchase costs amounting to Ush 7.2 Billion arising from energy purchases from Siti 1 hydro power Plant based on a generation tariff of US cents 10.0/Kwh as approved by the Authority.

3.2.11 Nyamwamba Hydro Power Plant (9 MW)

Nyamwamba Hydro Power Plant is expected to be commissioned in October 2017. The plant is expected to generate 10.2 GWh in 2017 based on installed capacity, the plant factor and expected days of generation in 2017.

Nyamwamba Hydro Power Plant is expected to sell energy to UETCL at US cents 8.5/Kwh. This therefore, implies that UETCL will incur power purchase costs of Ush 3.2 Billion in 2017.

3.2.12 Rwimi Hydro Power Plant (5.5 MW)

Rwimi Hydro Power Plant is expected to be commissioned in October 2017. The plant is expected to generate 6.0 GWh in 2017 based on installed capacity, the plant factor and expected days of generation in 2017.

Rwimi Hydro Power Plant is expected to sell energy to UETCL at US cents 9.8/Kwh. This therefore implies UETCL will incur power purchase costs of Ush 2.1 Billion in 2017.

3.2.13 Waki Hydro Power Plant (4.8 MW)

Waki Hydro Power Plant is expected to be commissioned in October 2017. The plant is expected to generate 6.6 GWh in 2017 based on installed capacity, the plant factor and expected days of generation in 2017.

Waki Hydro Power Plant is expected to sell energy to UETCL at US cents 10.1 /Kwh. This therefore, implies that UETCL will incur power purchase costs of Ush 2.4 Billion in 2017.

3.2.14 Kakira Sugar Limited (52 MW)

The plant is estimated to generate 138.6 GWh by the end of 2016. The plant has experienced some challenges in terms of reduced access to cane/fuel. This has been as a result of development of a number of other sugar manufacturers in the same area with limited expansion of sugar cane plantations.

In 2017, is expected to overcome the fuel/cane challenges and increase generation. The power plant will generate at an average of 26.85 MW translating into energy of 235.2 GWh.

UETCL power purchase costs for Kakira Sugar Limited energy are expected to increase from Ush 42.8 billion in 2016 to Ush 82.8 Billion in 2017. The increase in power purchase costs is on account of increased generation from KSL, upward adjustment of the generation tariff for Producer Price Index, and depreciation of the Uganda Shilling against the United States Dollar.

3.2.15 Kinyara Sugar Ltd (7.5 MW)

The plant is estimated to sell 8.6 GWh to the National Grid by the end of 2016. Kinyara Sugar Limited has faced power evacuation challenges which are expected to be addressed in 2017. The plant is expected to increase generation to 15.5 GWh in 2017.

The Kinyara power purchase costs are expected to increase from Ush 2.3 Billion in 2016 to USh 4.5 Billion in 2017 on account of increased

generation from the power plant and depreciation of the Uganda Shilling against the United States Dollar.

3.2.16 Sugar and Allied Limited (SAIL)

Sugar and Allied was commissioned in 2013, generating power for own use. The plant was then connected to the Grid in 2015. The plant has an installed capacity of 11.5 MW with 6.5MW committed to the National Grid. The plant, however, experienced constraints in cane supply and therefore supplied limited capacity to the National Grid.

SAIL is expected to supply 19.4 GWh to the National Grid by the end of 2016. In 2017, it is projected that the Plant will supply the National Grid at an average capacity of 5.0 MW translating into 43.8GWh of energy.

The Sugar and Allied Power Purchase costs are expected to increase from Ush 6.1 Billion in 2016 to Ush 15.4 Billion in 2017 on account of increased generation from the Power Plant, and depreciation of the Uganda Shilling against the United States Dollar.

3.2.17 Mayuge Sugar Limited

In 2015, the Authority licensed Mayuge Sugar Limited to construct and operate a co-generation bagasse power plant. Mayuge Sugar was expected to generate 30.8 GWh in 2016. However, the plant wrote to the Authority to cancel its Licence citing limited bagasse to generate power for both own use and the National Grid. We have therefore not considered any generation from Mayuge Sugar.

3.2.18 Electro-Maxx Ltd- Tororo (50 MW)

In 2016, the generation from Electromaxx is expected to be maintained at 7 MW generating 61.3 GWh. The generation from thermal plants will only increase when the generation from other sources is exhausted in 2017 to avoid load shedding.

The power purchase costs are expected to increase from USh 28.4 Billion to Ush 40.5 Billion in 2017. This is due to the likely depreciation of the Uganda Shilling against the other foreign currencies. The prices of fuel on the international market are expected to increase in 2017.

3.2.19 Jacobsen Uganda Power Plant Company Limited - Namanve (50 MW)

The License for Jacobsen expired on 14th September 2016. The company applied for renewal of its License. The Authority approved a one year license renewal. The company commenced generation in the fourth quarter of 2016. In 2017, the plant is expected to generate at a minimum dispatch of 7 MW translating into 61.2 GWh at a cost of Ush 39.9 Billion.

3.2.20 Access Solar TSK (10 MWp)

The plant was procured through a competitive bidding process under the Global Energy Transfer Feed-in-Tariff (GETFiT) Program with a total capacity of 10 MWp, with a plant factor of 23%. Following the award of a Licence by the Authority, construction started and the company achieved Commercial Operations on 12th December 2016. It is projected that the plant will generate 20.1 GWh in 2017 at cost of Ush 8.2 Billion.

3.2.21 Tororo Solar North (10 MWp)

The project was also procured under the GETFiT program with 10MWp total capacity, with a plant factor of 23%. The project experienced some delays in achieving financial close but is expected to commission by the fourth quarter of 2017. A total of 5.1 GWh are expected to be generated from this plant in 2017 at a cost of Ush 2.1 Billion.

3.2.22 Imported Power

In 2016, UETCL is estimated to import 43.4 GWh at a power purchase cost of Ush 21.6 Billion from Kenya and Rwanda mainly for system stability. In 2017, UETCL is projected to import 52.8 GWh from Kenya Power and Lighting Company and Rwanda Energy Group.

The cost of importing power is expected to increase from Ush 21.6 Billion in 2016 to Ush 32.6 Billion in 2017.

The breakdown of the power purchase costs and energy dispatch from the generation sources is shown in Table 2.

Table 2: Projected Energy Purchases by UETCL

Generation Plant	Energy (GWh)	Cost (Ush Bn)	Energy (GWh)	Cost (Ush Bn)
	2016 Provisional Outturn		2017 Forecast	
Eskom Uganda Limited	1,437.4	50.2	1,364.0	54.4
Bujagali Energy Limited	1,541.4	582.5	1,520.0	569.0
KCCL	53.1	9.9	63.1	13.1
KML	25.4	2.2	21.9	1.9
Bugoye-Tronder	59.8	17.2	80.6	25.5
Mpanga	51.2	15.5	76.8	20.2
Electromaxx	61.3	28.4	61.2	40.5
Jacobsen - Namanve	4.4	2.0	61.2	39.9
Ishasha Ecopower	24.9	6.6	28.9	7.6
Kakira SW	138.6	42.8	235.2	82.8
Kinyara	8.6	2.3	15.5	4.5
Sugar and Allied	19.4	6.1	43.8	15.4
Tororo Solar North	-	-	5.1	2.1
Access Solar	3.2	1.9	20.1	8.2
Muvumbe	-	-	23.1	7.9
Nyamwamba			10.2	3.2
Rwimi			6.0	2.1
Waki			6.6	2.4
Siti 1	-	-	19.8	7.2
Buseruka Hydromax	34.1	11.2	55.8	19.2
Import KPLC - Kenya	39.5	19.2	48.2	31.0
Import Rwanda	3.9	2.4	4.6	1.6
Total	3,505.8	800.4	3,771.8	960.0

4 ENERGY SALES BY UETCL

The energy purchases by UETCL are adjusted for transmission losses and sold to different distribution companies and exported. Based on the forecast, UETCL will sell 93.7 percent of the energy to Umeme Limited as shown in Table 3. UETCL is expected to export 4.7% percent of energy and the rest (1.7%) will be sold to the small distribution companies in the country.

Table 3: Energy Sales by UETCL in 2017

Distribution Licensee	Energy Annual Sales by UETCL (GWh)	%tage sales
Umeme Limited	3,413.1	93.7%
Ferdsult	33.8	0.9%
KIL	5.8	0.2%
BECS	2.9	0.1%
PACMECS	2.8	0.1%
KRECS	3.2	0.1%
UEDCL	13.1	0.4%
EXPORT	169.5	4.7%
TOTAL	3,644.3	100.0%

4. UETCL TARIFF PROPOSALS FOR 2017

4.1 Introduction

UETCL is currently regulated under the incentive-based Multi-Year Tariff (MYT) regime.

In 2014, pursuant to the license for Bulk Power Supply issued to UETCL, the Authority approved tariff performance parameters under a Multi-Year Tariff regime for the period 2014-2016.

Further to the above, Annex A of the UETCL License for Bulk Power Supply states that; “the Licensee shall not later than six months before the end of the three year period submit a trajectory for transmission losses and a schedule of the Operation and Maintenance costs for each year for the next five year period. The licensee shall provide justification including its capital expenditure programme for the next five year period.”

In 2016, UETCL submitted its application for the Multi-Year Tariff period 2017 to 2019.

Under the Multi-Year tariff regime, the Authority sets annual performance targets for UETCL; such that on one hand if the company achieves or surpasses the performance targets, it retains the financial benefit associated with the targets. On the other hand, if the company does not achieve or performs below the set targets, it suffers the financial loss or penalty for the performance.

To note is that under the incentive-based MYT regime, UETCL is fully compensated for any changes in operation costs arising from changes in macro-economic factors including exchange rate, inflation, international fuel prices and changes in the energy supply mix.

The UETCL Tariff Methodology is designed to produce revenues that are equivalent to the aggregate sum of regulated costs of power purchase, system operation and the Operation and Maintenance of the High Voltage Transmission Grid.

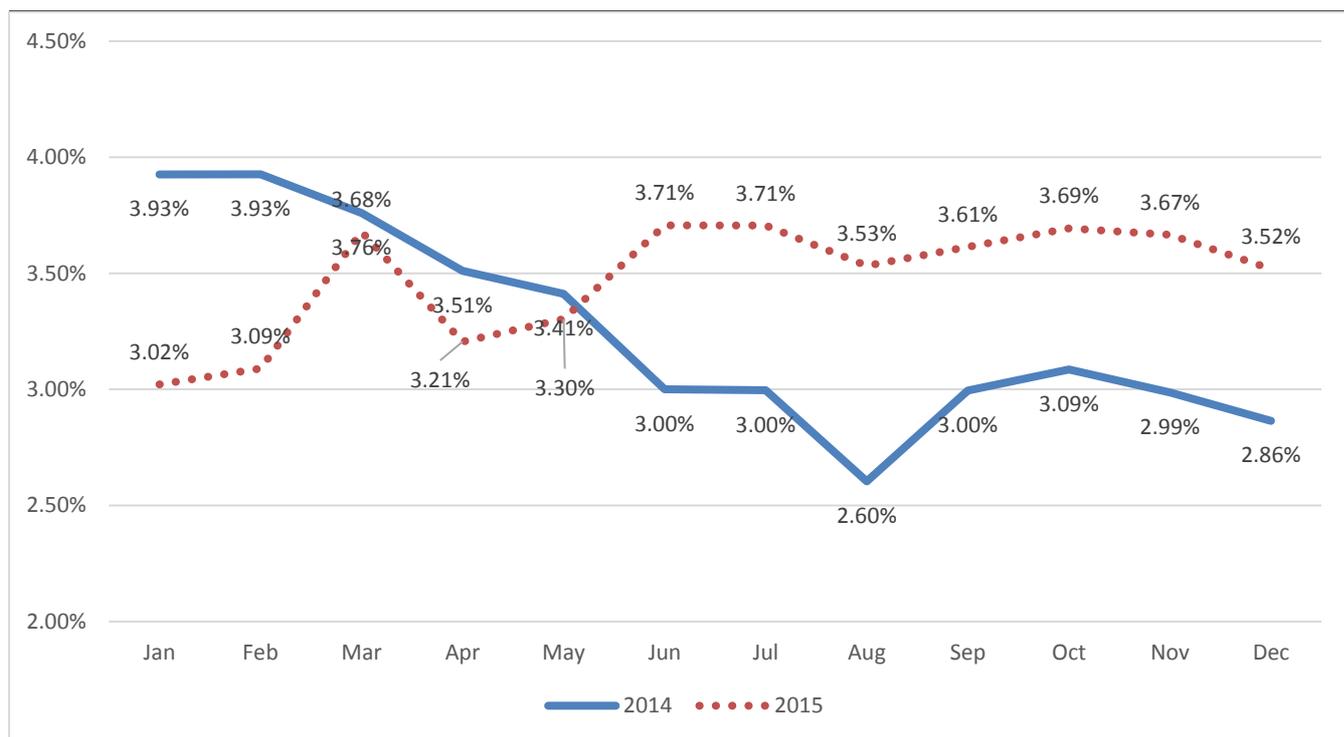
The Authority has approved Tariff Performance parameters of Operation and Maintenance costs, transmission energy losses, and Capital Expenditure by UETCL for the period 2017 – 2019. The approved Tariff Performance parameters have been applied in the determination of the Bulk Supply Tariff.

4.2 Transmission Losses

For the Tariff Year 2014, the Authority set an overall Transmission energy Loss Factor (TLF) of 3.8%, and the same was used in the determination of the applicable Bulk Supply Tariff. Based on the reporting by UETCL, the company experienced an overall Transmission energy loss of 3.25% in 2014.

For the Tariff Year 2015, the Authority set an overall Transmission energy Loss Factor (TLF) of 3.6%. Based on the reporting by UETCL, the company experienced an overall Transmission energy loss of 3.48% in 2015. The month-on-month TLF is shown in Figure 3.

Figure 3: Overall Transmission energy losses for 2014 – 2015



The applicable transmission loss factor for 2016 as approved by the Authority under the Multi-Year Tariff is 3.3%. UETCL has reported an outturn of 3.3% for the period January to September 2016.

In its application, UETCL applied for Transmission energy Loss Factor trajectory for the five years 2017-2021 under the Multi-Year Tariff as summarized in Table 4.

Table 4: Transmission Loss Factor Trajectory 2014 – 2016

Year	2017	2018	2019	2020	2021
Transmission Loss Factor	3.38%	3.37%	3.38%	3.19%	3.08%

For the purpose of determining the Bulk Supply Tariff for 2017, a transmission energy loss factor of 3.38% has been applied.

4.3 UETCL Budget

Based on the review undertaken by the Authority in respect to the Multi-Year Tariff, Operation and Maintenance Costs of Ush 85,245 Million and other revenue of Ush 15,480 Million have been used in the computation of the Bulk Supply Tariff for 2017.

4.3.1 Local Currency Split of Operation and Maintenance Costs

In the application for the Multi-Year Tariff, UETCL applied for adjustment of the foreign currency content of the Operation and Maintenance costs from 25% during the previous Multi-Year Period to 28% in 2017. UETCL provided justification for the proposed change and measures implemented by the company to reduce the exposure of Operation and Maintenance costs to fluctuations in foreign exchange.

During the determination of the Bulk Supply Tariff for 2017, the operation and maintenance split/content has been adjusted to 72 percent local currency content and 28% foreign currency content.

4.3.2 Adjustment of the Operation and Maintenance Costs of UETCL

Following the transition to the Multi-Year Tariff and in accordance with the Tariff Methodology, the UETCL Operation and Maintenance costs shall be subject to quarterly adjustment for changes in exchange rate and Consumer Price Index.

For the purposes of computing the adjustment factor, the local currency content of UETCL Operation and Maintenance is 72%, the base Consumer Price index is 159.4 and the Base Exchange rate is Ush 3,357/USD. The exchange rate of Ush 3,357 was applied by UETCL in the conversion of foreign currency costs into Uganda Shillings in the Multi-Year Tariff application. The Base Consumer Price Index of 159.4 is the index published by Uganda Bureau of statistics (UBOS) for November 2016.

Going forward under the Multi-Year Tariff, the effective Operation and Maintenance Cost has been determined based on the movement in the exchange rate and the consumer Price Index and in line with the Tariff Methodology in the Bulk Supply License.

4.3.3 High Voltage load profile

In 2016, the Authority approved a High Voltage Load Profile by UETCL of 29.1% peak, 50.3% shoulder and 20.6% off peak.

During the Tariff Year 2016, the high voltage load profile has marginally changed to 28% peak, 51% shoulder and 21% off peak as reported by UETCL and Umeme Limited.

For the 2017 tariffs, the high voltage load profile considered is 28% peak 51% shoulder and 21% off peak.

5. ESKOM UGANDA LIMITED 2017 TARIFF PROPOSALS

5.1 Background

Eskom Uganda Limited (EUL) is licensed (License No. 018) to generate electricity from the Nalubaale and Kiira Hydropower Complex and sell it to the National Grid.

Effective 1st April 2015, the Authority approved EUL four-year (April 2015 to March 2018) Generation Operation and Maintenance Costs (GOMC). EUL approved GOMC includes staff costs, core Operation and Maintenance (O&M) costs, Administration costs, Management Fee, Director Fees and Non Core Assets/depreciation as indicated in Table 5.

Table 5: EUL Approved GOMC for the four years 2015-2018 (Ush '000')

Cost Item	2015	2016	2017	2018
Staff Costs	10,348,824	9,689,494	9,644,404	9,533,710
Core Operation & Maintenance Costs	5,148,712	5,049,416	6,561,039	4,802,699
Administration costs	3,495,397	3,340,010	3,336,095	3,345,315
Management Fee	840,000	840,000	840,000	840,000
Directors Fees	372,400	372,400	372,400	372,400
Non-core Assets/ Depreciation	6,385,375	3,425,278	5,865,525	7,510,293
Total in UGX	26,590,708	22,716,599	26,619,463	26,404,417

Cost Item	2015	2016	2017	2018
Exchange Rate	2,867	2,867	2,867	2,867
Total in USD	9,275	7,924	9,286	9,211

The EUL License No. 018 as amended as well as the 2014 approved Quarterly Tariff Adjustment Methodology provide for adjustment of GOMC Base parameters for changes in exchange rate and inflation as measured by the consumer price index (CPI). The base Consumer Price Index is 213.95 and an exchange rate of 2,866.77/USD for the purpose of adjustment of the Generation Operation and Maintenance Cost for Eskom Uganda Limited.

5.2 EUL 2016 Tariff Submission

On 8th November 2016, ERA received EUL 2017 tariff application. In the application, EUL requested the Authority to approve a Capacity Price of Ush 36,332.4 per MWh in 2017 based on the following assumptions:

- (i) The investment assets added by EUL in the power plant in 2016 amounting to USD 1,931,242.59 and all the funds were from Eskom's internally generated funds;
- (ii) A weighted average depreciation rate of 5% per annum for all investment assets;
- (iii) 10% increase in concession fees, regulatory fees of USD 900,000 and Royalties remain at Ush 292/MWh;
- (iv) Operation and Maintenance (O&M) costs split of 61.29% local currency and 38.71% foreign currency (US Dollar).
- (v) EUL estimated average energy generation of 177 MW per hour based on Directorate of Water Resources Management (DWRM) water release of 1,000 Cumecs with an average daily auxiliary consumption of 0.30 MWh; and
- (vi) 2017 project investments of USD 7,762,479.

5.3 Electricity Regulatory Authority review and Analysis

The Authority has undertaken a review of each of EUL's assumptions and determined as follows:

5.3.1 Capital Investment by Eskom (IN)

In its application, Eskom Uganda Limited indicated that the company has invested USD 1,931,242.59 in 2016 that qualifies for a return on investment bringing the total gross investment by Eskom Uganda Limited to US\$ 21.967 million. The investments undertaken by Eskom Uganda Limited in 2016 have been allowed in the determination of the Capacity Price for Eskom Uganda Limited for 2017 pending the verification of the Investments. Once the investment verification exercise is complete, and the verified and approved amount is different from USD 1,931,242.59, reconciliation will be undertaken and any variances clawed back.

5.3.2 Depreciation (DPR_y)

The company in its submission applied for a weighted average depreciation rate of 5% in line with twenty year license and concession period. Accordingly, this rate of 5% results into depreciation cost of US\$ 1,098,000 for 2017 and has been used in the computation of the Capacity Price.

5.3.3 Regulatory Fees

The Electricity (License Fees) (Amendment) (No. 3) Regulations, 2014 prescribes USD 112,500 per 50 MW or part thereof to be paid by very large generators (200 MW and above). EUL is operating Nalubaale and Kiira power plants with a combined installed capacity of 380MW. The License fees that EUL will pay in 2017 therefore amount to USD 900,000 and this has been considered in the determination of the Capacity Price.

5.3.4 Royalties

In its application, Eskom Uganda Limited requested for Royalties at Ush 292/MWh in 2016. The Authority approved regulation for the determination of royalties, and based on expected generation from Eskom Uganda Limited of 1,364 GWh, Ush 398.3 Million has been allowed as royalties in the determination of the Capacity Price for Eskom Uganda Limited for 2017.

5.3.5 Operation and Maintenance Costs (O&M)

The Authority approved Operations and Maintenance costs of US\$ 9.286 Million for 2017 pursuant to Amendment No. 2 of the Eskom Uganda License.

The License provides for adjustment of the Operation and Maintenance costs for movement in exchange rate and consumer Price Index.

The Consumer Price Index (CPI) used in the escalation of the 2017 approved GOMC is the November 2016 CPI of 159.4 compared to the 2015 reference CPI of 144.29 (re-based). The exchange rate used in the adjustment of the 2017 approved GOMC is the 30th November 2016 midrate of 3,630.22 compared to the January 2015 reference midrate of 2,866.77.

5.3.6 Split of the Operation and Maintenance cost for Local and foreign content

The EUL License (as amended) states that at the end of each year and based on actual costs incurred, the Licensee will submit its computation of Operation and Maintenance costs split into local currency and foreign currency to the Authority for its review and approval. In the 2017 tariff application, Eskom Uganda Limited applied for Local currency content of 61.29% on the approved Operation and Maintenance costs.

5.3.7 2017 Investments by Eskom

Eskom Uganda Limited Investments for the period 2015-2018 were considered during the review of the tariff performance parameters in Amendment Number Two to the Generation License. The Authority considered that Eskom Uganda Limited will represent the investments for reconsideration if the assumptions have significantly changed.

In the 2017 Tariff application, Eskom Uganda Limited stated that its planned investments of USD 7.762 Million in the Nalubaale and Kiira Power plants in 2017 are based on what EUL and UEGCL (the asset owner) have agreed upon. These investments are not inputs into the 2017 tariffs.

5.3.8 Return on Investment

In accordance with the provisions of the generation License, Eskom Uganda Limited is entitled to 12 percent return on the net investment (US\$ 14.5 Million for 2017). The return on investment for 2017 based on the net investment undertaken by the company at the end of 2016 is US\$ 1.740 Million.

5.3.9 Tested generation capacity (TC)

In 2016, Naluubale-Kiira hydro power stations' capacity test generated a maximum of 292 MW with an average of 163.2 MW. In 2017, we have projected the plant to generate an average of 150 MW, which has been used in the computation of the Capacity Price.

5.3.10 Target Availability

Pursuant to the Eskom Uganda Generation License, for the period commencing with the transfer date, until and including the 31 December 2002, the target availability shall be equal to 95% and for the 3 year period, commencing 1 January 2004, the target availability shall be equal to 96%. The target availability for each subsequent 3 year period shall be determined and set thereafter by the Authority, but in no event shall it be less than 94% or more than 97% in any period. Based on the inspection done by ERA and submission by Eskom Uganda Limited, the availability in 2016 is 97.25 percent.

For the purpose of this review, Target availability as determined in amendment number two of the Eskom License is 96.1% and the same has been used in the computation of the capacity price for 2017.

6. ANNUAL BUDGETS FOR UEGCL

The Authority approved the UEGCL budget for the Tariff Year 2017 of Ush 6,519 Million. For the purpose of computation of the Capacity Price for 2017, the UEGCL budget of Ush 6,519 Million has been considered.

7. DISTRIBUTION ASSUMPTIONS

7.1 Umeme Investment

In 2016, the Authority considered the submission of Umeme Limited and approved a total of US\$ 25.22 Million for 2012, US\$ 39.47 Million for 2013, US\$ 49.66 Million for 2014 and US\$ 64.31 Million for 2015 as investments that qualify for a return for 2013, 2014, 2015 and 2016.

Following the conclusion of the verification exercise, the Authority has undertaken a reconciliation for the over recovery experienced by Umeme Limited on account of overstatement of investment. Following the reconciliation, Ush 95,183 Million has been offset against Umeme Limited revenue requirement as shown in Table 6.

Table 6: Investment reconciliation

Year	Amount –Ush
2012 Investment	7,182,700,509
2013 Investment	(5,494,453,875)
2014 Investment	85,441,826,421
2015 Investment	8,053,656,219
TOTAL	95,183,729,274

In the 2017 tariff application, Umeme Limited indicated that it had invested US\$ 72.5 Million in 2016. This amount of US\$ 72.5 Million has been allowed in the computation of the Distribution Price pending conclusion of the investment verification exercise. The investment verification exercise is expected to commence and be concluded in 2017 after which reconciliation shall be conducted if the verified amount is different.

7.2 Capital Recovery/ Depreciation (CR_y)

Umeme Limited in its application requested for depreciation/capital recovery rate of 9.5 percent. Umeme Limited stated that the company had reviewed the capital recovery rate to align the same to the accounting depreciation rate.

The Electricity Regulatory Authority reviewed the justification provided by Umeme Limited for a capital recovery rate of 9.5% and noted the following;

- a) It is expected that the capital recovery rate should change based on the remaining period of the concession and the useful life of the investment assets installed on the distribution network,
- b) It is not expected for the capital recovery rate to reduce as the remaining period of the concession reduces,
- c) The company does not have an incentive to accelerate depreciation because; there are no alternative investments with better return on investment, and the company will be exposing itself to re-investment risks.

7.2.1 Impairment Charges

In its application, Umeme Limited requested for impairment charges amounting to Ush 9,580 Million in respect of different assets that were written off between 2012 and 2015 and replaced prior to expiry of their useful life. As part of the application, Umeme Limited submitted a detailed spreadsheet showing the impaired assets, the location of the assets, the Net Book Value (undepreciated impaired value), and the capital recovery by the company at the time of impairment.

It is our understanding that in as far as regulation is concerned, impairment is simply an accelerated recovery of investments. This implies that the impaired assets are recoverable under an accelerated capital recovery. the Authority further notes that it is not prudent for Umeme Limited to continue earning a return on assets that are impaired and not yielding benefit to the electricity consumers.

Because provision for impairment leads to accelerated recovery of capital, the allowance for impairment can be provided for through accelerated capital recovery/depreciation and not separate cost item.

When the capital recovery charge of 9.5% is added to the impairment recovery of Ush 9,579.7 Million (US\$ 2.628 Million), the weighted average capital recovery for 2017 is 10.2%.

Based on the foregoing, a capital recovery rate of 10.2% has been used in the computation of the Distribution Price for 2017.

7.3 Umeme Performance Parameters for 2017

The Overall Distribution Loss Factor, Distribution Operation and Maintenance Costs (DOMC), Distribution Efficiency, Days Lag, and Uncollected Debt Factor as set and approved by the Authority for Tariff Year 13 (2017) for UMEME are summarized in table 7:-

Table 7: Summary of the parameters for 2015 - 2016

Parameters	2015	2016	2017
Overall Distribution Loss Factor	18.5%	17.1%	15.9%
DOMC (USD \$ 000)	46,186	47,433	49,033
Distribution Efficiency DEF (%)	0%	0%	0%
Days Lag (DY)	0	0	0
Target Uncollected Debt Factors TUCF	2.3%	2.1%	1.85%

Umeme Limited has reported that the energy loss outturn for the period January to June 2016 is 19.2% and Total Un-collection Factor of less than 1.8%.

The performance targets as approved by the Authority have been used in the determination of the distribution price.

7.4 Lease Payments

Umeme Limited in its submission applied for US\$ 1.6307 Million relating to lease payment to UEDCL. The submission was in line with the Government of Uganda decision to suspend lease payments through the tariff by converting outstanding debt obligation into zero return equity for Uganda Electricity Board successor companies.

Based on the forgoing, lease payments amounting to US\$ 1.6307 Million have not been provided for in the tariff for 2017.

7.5 UEDCL Budget

For the tariff year 2016, the Authority approved Ush 5,456 Million for UEDCL budget. The review of the UEDCL 2017 budget was concluded

and Ush 5,917 Million has been used for the computation of the Umeme Limited's Distribution Price for 2016.

7.6 Customer Numbers

The company has increased the customer numbers in 2016 and is estimated to add 89,866 new connections by the end of December 2016. The customers by category are summarized below in table 8;-

Table 8: New Customer connections from 2011 to 2016

Year	Domestic	Commercial	Medium Industrial	Large Industrial	Street-lights	Total
2011	389,820	33,569	1,547	358	253	425,547
2012	422,589	37,991	1,853	349	293	463,075
2013	504,439	48,189	2,076	395	360	555,459
2014	589,415	58,075	2,267	468	348	650,573
2015	738,488	69,219	2,404	495	317	810,923
2016	821,505	75,974	2,470	535	305	900,789

7.7 Time of Use Factors by Customer Class

In the application, Umeme Limited requested the load profile to be adjusted based on actual sales per Time of Use in 2016. The Authority has recomputed and studied the load profile based on reporting by the company for the nine (9) months ending September 2016 and recommends that the Load profiles be amended as included in Table 9.

Table 9: Time of Use Profile

Customer category		Domestic	Commercial	Small Industrial	Large Industrial	Street Lighting
		Code 10.1	Code 10.2	Code 20	Code 30	Code 50
2016	Peak	36.0%	24.5%	24.3%	24.4%	60.0%
	Shoulder	44.0%	55.8%	59.0%	52.0%	0.0%
	Off-peak	20.0%	19.7%	16.7%	23.6%	40.0%
2017	Peak	36.0%	19.5%	23.7%	23.0%	60.0%
	Shoulder	44.0%	65.2%	58.7%	52.8%	0.0%
	Off-peak	20.0%	15.2%	17.6%	24.2%	40.0%

7.8 Time Of Use Weighting Factors

Following the commissioning of Bujagali Energy Limited and elimination of load shedding, the Authority in 2014 approved an adjustment of the Time of Use weighting factor to 120%. In order to further incentivize electricity consumers to shift consumption from peak to off peak and shoulder Time of Use, the Authority in 2015 further adjusted the Time of Use weighting factor to 130%.

Following the adjustment of the Time of Use weighting factor, commercial, medium industrial and large industrial consumers have changed the load profile as shown in Table 9.

The Authority has maintained the Time of Use weighting factor at 130%. The Authority will undertake sensitization in 2017 to incentivize reduction of consumption at peak periods by commercial, medium and large industrial customers.

Table 10: Time of Use Weighting Factor

Status	BST-Peak	HV-Peak	HV-Shoulder	LV-Peak	LV-shoulder
Current	130%	130%	100%	130%	100%
Approved	130%	130%	100%	130%	100%

7.9 Maximum Demand Charge (KVA Sales)

In 2012, the Authority approved maximum demand charge for medium industries code 20 of Ush 16,644 per kVA per month, and Ush 11,096 per kVA per month up to 2,000kW and Ush 5,548 per kVA per month for the large industries code 30. For the twelve month period ending September 2016, Umeme sold 1,884,391 units to medium industries and 3,800,299 units to large industries. These sales have been considered for the computation of the distribution price for the respective customer categories. Umeme Limited has not applied for adjustment of the maximum demand charge and the approved charges have been maintained in 2017.

The maximum demand charge of Ush 16,644 kVA per month and, Ush 11,096 per kVA per month up to 2,000kW and Ush 5,548 per kVA per month for the large industries code 30 have been used in the determination of the Distribution Price in 2017.

7.10 Reactive Power Tariff

The Authority approved a reactive energy charge of Ush 40 per kVArh per month and reactive energy reward of Ush 20 per kVArh per month with the objective of ensuring efficient power utilization by medium and large industrial consumers through reactive energy compensation initiatives.

In its application, Umeme Limited stated that the company is in the process of concluding the study to review the adequacy of the rates and presumed impact on customer behavior.

Umeme Limited further stated that the reactive power tariff is an impactful initiative to support demand side management and recommends that the charge is maintained as part of the tariff structure to influence efficient energy utilization by large consumers.

For the period October 2015 to September 2016, Umeme Limited reward Ush 3,460 Million and penalized Ush 3,709 Million resulting into net reward/deficit of Ush 249 Million. This amount Ush 249 Million has been considered in the computation of the distribution price.

The Authority approved the reactive energy charge of Ush 40 per kVARh per month and reactive energy reward of Ush 20 per kVARh per month.

7.11 Percentage of Local and Foreign Content for DOMC

In 2016, the Authority approved a local currency content of DOMC at 67%. Umeme Limited applied for an adjustment of the Local currency content to 65%. Umeme Limited stated that the company profiled its operating expenditure for 2016 and noted that 35% of its operating expenditure is in foreign currency. The Electricity Regulatory Authority reviewed the submission and noted the following;

- a) The spreadsheet does not include the breakdown of foreign denomination of the cost items.
- b) Umeme Limited's submission does not include the explanation for the shift in the company's DOMC structure over the last nine months.
- c) The approved DOMC is in foreign currency, and its imperative the computation indicates the movement in the foreign currency split based on Schedule A-5 of the License for supply of Electricity. The submitted computation already has the adjustment of both Consumer Price Index and foreign exchange incorporated, causing a distortion in the derivation.

7.12 Capital Recovery Charges for Assets funded by Third Parties and concessionary financing

In its application, Umeme Limited argues that the assets funded by Third Parties and Concessional financing need to qualify for capital recovery. To justify its claim, Umeme Limited bases on the fact that these categories of assets are maintained on the Company's books of accounts, are operated and maintained and replaced by the company.

Whereas the company's claim in respect maintenance of assets on its books, operation and replacement of the assets is not contestable, Capital Recovery charges are not for repair and maintenance but for recouping the invested capital. Therefore as a principle drawing from the reasonableness provisions enshrined in Section 75 of the Act, Assets not funded from debt and equity acquired by the Company do not qualify for Capital Recovery charges.

It should be noted that costs of repair and maintenance for all assets are separately approved to the extent of need, reasonableness and satisfactory justification by the Company irrespective of the original financing for putting the assets in place.

Therefore, it is not reasonable and neither is it justified for assets financed by grants to attract Capital Recovery Charges.

7.13 Impact of increased numbers of Customers on Umeme

Umeme Limited makes a claim that the customer connections have exceeded the connections anticipated in 2012 when approving the O&M costs for the period up to 2018. The Company further claims that the over performance on connections results in higher costs of O&M on the Company beyond what was anticipated. In our analysis, we find that:

The operation and maintenance costs comprise of overhead costs (fixed) and Variable costs. Operational efficiency entails increasing performance and achieving a level of operations where the per unit fixed costs are optimally minimized.

It should be noted that increase in number of customers comes with additional variable costs that are directly met either by the consumer and/or are currently capitalized as investments on which the company earns a return.

In addition, it should be noted that customer numbers were not envisaged as a performance target and neither were the costs of O&M envisaged to vary with increase in customer numbers. This is because reasonable levels of O&M as an overhead can facilitate an increasing customer base.

Therefore, increase in customer numbers would be expected to deliver efficiency gains in terms of reducing the per unit cost of energy sales unless a reasonable fixed O&M cost profile is presented that shows cost increase.

8. RECONCILIATIONS

8.1 INCOME TAXES

The License for Supply of Electricity requires that reconciliation is undertaken comparing the Income Tax allowance/provision used in the computation of the Distribution Price and the actual outturn paid in the retail tariff year based on the company's reporting and the audited financial statements.

The income tax allowance in the 2015 tariff was Ush 54,202.11 Million compared to income tax paid of Ush 33,776. Million as included in the Umeme Limited's audited financial statements for the year 2015. The reconciliation therefore on account of Income taxes is **Ush 20,426.11 Million** before adjustment for investment reconciliation, and **Ush 9,403.35 Million** after adjustment for investment reconciliation as shown in Table 11.

Table 11: Income Taxes Reconciliation

	Amount Allowed (US\$ Million)	Exchange rate	Amount Allowed (Shs Million)
Q1	4.38	2,779.95	12,164.47
Q2	4.38	2,894.18	12,664.34
Q3	4.38	3,054.29	13,364.94
Q4	4.38	3,658.39	16,008.36
	17.50		54,202.11
		Income Tax Paid	33,776.00
		Income Tax Reconciliation	20,426.11
		Adjustment for Investment Recon	11,022.76
		Final Income Tax Reconciliation	9,403.35

8.2 2012, 2013 AND 2014 INVESTMENTS RECONCILIATION

Following the conclusion of the investment verification exercise and disposal of the appeal by Umeme Limited, the decisions of the Authority regarding the capital investments that qualify for return on investment undertaken by Umeme Limited for 2012, 2013, 2014 and 2015 were communicated, vide letters Ref: - FIN/9/11/2 and FIN/9/11/2 of 10th June 2015 and 3rd September 2015, 29th May 2016, 7th August 2016 and 16th September 2016. Accordingly, the Electricity Regulatory Authority

has undertaken the reconciliation for the 2012, 2013, 2014 and 2015 verified investments.

In 2012, the provisional amount that was allowed by the Authority for the determination of the Distribution Price subject to conclusion of the Investment verification exercise was US\$ 36,500,000. Following the conclusion of the verification process and the disposal of Umeme Limited appeal by the Authority, US\$ 25,219,101 was approved as investments made by Umeme Limited qualifying to be added to the Asset Base for purposes of return on investment.

Consequent to the above, the Electricity Regulatory Authority has carried out a reconciliation of the surplus revenue earned by Umeme Limited (and not yet clawed back) from January 2013 to March 2016 amounting Ush **7,182.7 Million** as shown in Table 12.

Table 12: Reconciliation for 2012 investments

Capital Recovery	2.00	2543.871582	5,079.92
Return on Investment	4.04	2553.740368	10,314.06
Income Taxes	1.73	2553.740368	4,420.31
Total	7.77	2551.202949	19,814.29
		Amount Already Reconciled	12,631.59
		Amount Yet to be clawed Back	7,182.70

In 2013, the provisional amount of investments that was allowed by the Authority for the determination of the Distribution Price subject to conclusion of the Investment verification exercise was US\$ 50,000,000. Following the conclusion of the verification process, US\$ 39,491,406 was approved as the investments made by Umeme Limited qualifying to be added to the Asset Base for purposes of return on investment.

Consequently, we have carried out a reconciliation of the shortfall in revenue experienced by Umeme Limited (and not yet clawed back) from January 2014 to March 2016 amounting to **Ush 5,494.45 Million** as shown in Table 13.

Table 13: Reconciliation for 2013 investments

	Amount in US \$ Million	Exchange Rate	Amount in Shs Million
Capital Recovery	1.12	2,511.77	2,815.68
Return on Investment	2.34	2,519.77	5,902.64
Income Taxes	1.00	2,519.77	2,529.70
Total	4.47	2,517.76	11,248.02
	Amount Already Reconciled		16,742.47
	Amount Yet to be clawed Back		(5,494.45)

In 2014, the provisional amount that was allowed by the Authority for the determination of the Distribution Price subject to conclusion of the Investment verification exercise was US\$ 85 Million. Following the conclusion of the verification process and the disposal of your appeal by the Authority, US\$ 49.66 Million was approved as investments made by Umeme Limited qualifying to be added to the Asset Base for purposes of return on investment.

Consequent to the above, the Electricity Regulatory Authority has carried out a reconciliation of the surplus revenue earned by Umeme Limited (and not yet clawed back) from January 2015 to December 2016 amounting Ush **85,441.8 Million** as shown in Table 14.

Table 14: Reconciliation for 2014 investments

	Amount in US \$ Million	Exchange Rate	Amount in Ush Million
Capital Recovery	6.86	3,229.08	22,142.04
Return on Investment	13.75	3,222.48	44,309.85
Income Taxes	5.89	3,222.48	18,989.94
Total	26.50	3,224.19	85,441.83

In 2015, the provisional amount that was allowed by the Authority for the determination of the Distribution Price subject to conclusion of the Investment verification exercise was US\$ 70.6 Million. Following the conclusion of the verification process and the disposal of your appeal by the Authority, US\$ 64.315 Million was approved as investments

made by Umeme Limited qualifying to be added to the Asset Base for purposes of return on investment.

Consequent to the above, the Electricity Regulatory Authority has carried out a reconciliation of the surplus revenue earned by Umeme Limited (and not yet clawed back) from January 2016 to December 2016 amounting Ush **8,053.66 Million** as shown in Table 15.

Table 15: Reconciliation for 2015 investments

	Amount in US \$ Million	Exchange Rate	Amount in Ush Million
Capital Recovery	0.60	3,361.46	2,009.64
Return on Investment	1.26	3,361.46	4,230.81
Income Taxes	0.54	3,361.46	1,813.21
Total	2.40	3,361.46	8,053.66

8.3 OTHER REVENUES (OR_Y)

Umeme Limited collects other revenue in respect of: reconnection fees, meter testing, inspection fees, fines, etc. Pursuant to Amendment Number four of the Umeme Limited License for supply of electricity, the Authority provided for reconciliation for the other revenue as stated below;

OR_Y= Other revenues, in addition to retail tariff revenues, billed pursuant to special sales contracts and the schedules of other charges (excluding any customer contributions towards construction and for any capital-related components of such charges) authorized in annex C to each license held by the Licensee during the twelve months period ending one month before the first day of the Tariff year ‘y’ and set at 504.2 Million Uganda Shillings for the first Tariff Year. Before the end of each Tariff Year, the OR_Y will be reconciled with the actual outturn of OR_Y. Any over or under recovery in relation to what was allowed in the Tariff in any given Tariff Year “y” shall be clawed back and be considered as part of the revenue requirement in the subsequent year “y+1”

In accordance with the License for supply of electricity, the Authority has undertaken reconciliation for Other Revenue by comparing the amount used in the computation of the distribution Price for 2016 and the amount reported in the financial statements for the year ended 31st December 2015. The amount used in the computation of the tariff was Ush 4,425 Million compared to outturn of Ush 9,064 Million leading to an over recovery of **Ush 4,639 Million** as shown in Table 16.

Table 16: Reconciliation for other revenues

Other Income	USh
Amount used in the computation of the 2016 Tariff	(4,425,000,000)
Amount in Financial Statements	9,064,000,000
a) Reconnection fees	998,000,000
b) Meter/ Transformer test	3,000,000
c) Inspection	3,246,000,000
d) Sale of Scrap	130,000,000
e) Fines and other Income	524,000,000
f) OBA Income	4,163,000,000
Reconciliation	4,639,000,000

8.4 HVE RECONCILIATION

The Electricity Regulatory Authority undertook the HVE reconciliation for the period October 2015 to September 2016. The over recovery by Umeme Limited as a result of the HVE reconciliation is **Ush 23,732.7 Million** as shown in Table 17. This amount has not been considered in the tariff as it is to be considered in Amendment No. 5 implementing the Consent Judgment.

Table 17: HVE reconciliation

	Projected UETCL Bulk Purchases Used in model (GWh)	Energy Loss Target 2015	Energy Sales (GWh)	Actual UETCL Bulk Purchases (GWh) 2015	Expected Energy Sales (GWh)	Energy Sales Variance (GWh)	Average Distribution Price in the model (Ush/kWh)	HVE Reconciliation (Ush Million)
Q4 2015	713.4	18.6%	580.8	767.8	625.1	44.3	181.2	8,033.2
Q1 2016	754.8	17.1%	625.5	771.50	639.3	13.8	172.4	2,385.9
Q2 2016	754.8	17.1%	625.5	788.9	653.8	28.3	172.6	4,877.5
Q3 2016	754.8	17.1%	625.5	813.4	674.1	48.6	173.6	8,436.1
TOTAL Reconciliation								23,732.7

8.5 REACTIVE ENERGY CHARGE

The Electricity Regulatory Authority has undertaken a reconciliation regarding reactive energy charge by comparing the reactive energy charge and reactive energy reward. Based on the information submitted by Umeme Limited, the company under-recovered Ush 249.1 Million between October 2015 and September 2016, as shown in Table 18.

Table 18: Reactive energy charge/reward

Month	Penalty	Reward	Reconciliation
Oct-15	256,828,860	(298,071,020)	(41,242,160)
Nov-15	237,089,760	(300,458,545)	(63,368,785)
Dec-15	230,878,820	(289,630,648)	(58,751,828)
Jan-16	311,549,280	(295,543,332)	16,005,948
Feb-16	272,381,780	(266,949,810)	5,431,970
Mar-16	339,201,620	(309,076,290)	30,125,330
Apr-16	263,709,841	(325,982,770)	(62,272,929)
May-16	288,119,944	(327,679,190)	(39,559,246)
Jun-16	289,201,420	(323,565,712)	(34,364,292)
Jul-16	313,805,260	(327,741,180)	(13,935,920)
Aug-16	326,869,900	(321,491,230)	5,378,670
Sep-16	330,746,176	(323,336,940)	7,409,236
		TOTAL	(249,144,006)

8.6 NON NETWORK ASSETS

For the tariff year 2016, Umeme Limited applied for non-network assets amounting to **US\$ 5.0 Million**. At the time of approval of the 2015 Base Tariffs, Umeme Limited had not provided the justification and benefits regarding the non-network assets. Accordingly, the US\$ 3 Million included in the Base Tariffs for 2016 was a provisional amount.

Consequently, and as part of the Investment Plan for 2016, the Authority approved US\$ 300,000 as the applicable non-network assets allowance for 2016.

Electricity Regulatory Authority has undertaken a reconciliation comparing the amount used in the computation of the tariff and the approved amount for non-network assets. The excess revenue by Umeme Limited in 2016 is Ush 10,807 Million as shown in Table 19.

Table 19: Non-network assets

	2015				
	Provisional Approval	Final approval	Variance	FX rate	Amount in Ush
Q1 2015	750,000	152,700	597,300	2,780	1,660,461,149
Q2 2015	750,000	152,700	597,300	2,894	1,682,977,895
Q3 2015	750,000	152,700	597,300	3,054	1,714,537,017
Q4 2015	750,000	152,700	597,300	3,658	1,833,610,564
TOTAL	3,000,000	610,800	2,389,200		6,891,586,625
	3,000,000	610,800		Amount Reconciled	4,108,068,672
				Reconciliation	2,783,517,953
	2016				
	Provisional Approval	Final approval	Variance	FX rate	Amount in Ush
Q1 2015	750,000	75,000	675,000	3,357	2,005,028,606
Q2 2015	750,000	75,000	675,000	3,349	2,003,119,639
Q3 2015	750,000	75,000	675,000	3,365	2,006,676,956
Q4 2015	750,000	75,000	675,000	3,376	2,009,153,936
TOTAL	3,000,000	300,000	2,700,000		8,023,979,138
		300,000			
				Total	10,807,497,090

8.7 PSP reconciliation

In accordance with Umeme Limited Supply of Electricity License No. 048, the Power Supply Price (PSP) of any quarter should include the amount per kilowatt-hour required to reconcile cumulative amounts of actual power supply costs and related billed revenues. PSP reconciliation (R_q) is defined as;- *the cumulative amount required to reconcile power supply costs and related revenues equal to;- (a) power supply costs incurred by Licensee from UETCL or any other suppliers and self-generation (including related wheeling charges) less (b) revenues*

billed to retail customers by applying the power supply price to retail Kilowatt-hour sales, as such amounts are recorded in the Licensee's accounts over the period commencing on the Transfer date and ending on the last day of the month for which actual data is available prior to any quarter "q".

Umeme Limited in its application and subsequent discussions applied for a PSP reconciliation of Ush 79,695 Million. In the determination of the Power Supply Price (Rq) reconciliation, the ERA noted that there can only be a PSP reconciling amount under the following circumstances;-

- (a) When the Distribution Loss Factor target approved by the Authority is different from the outturn.
- (b) When the loss allocation per customer category assumed when setting the tariff is different from the outturn.
- (c) When the percentage of total energy consumed by the different customer categories assumed at setting the tariff is different from the outturn.
- (d) When the load profile per customer category used for tariff setting is different from the outturn.

The reconciling amount should be ZERO when all the parameters used for tariff setting are the same as the outturn.

The Authority noted that over the years, Umeme Limited reported that the company failed to achieve the regulatory Tariff Performance Targets with respect to; Overall Distribution Loss Factor, Target Uncollected Debt Factor, and over spent on the Distribution Operation and Maintenance Costs (DOMC) in comparison to the targets approved by the Authority and as used in the determination of the Distribution Price.

In the same periods, Umeme Limited continued to claim Power Supply Price reconciliations for among other reasons failure to achieve; the energy loss target set by the Authority, load profile, and energy sales per customer category used/assumed in the determination of the Distribution Price.

The Authority notes that despite the reported failure by Umeme Limited to achieve the Regulatory Tariff Performance Targets;

- a) The company's effective Return on Investment (ROI) as reported in the audited financial statements is higher than the allowed ROI included in the tariff model and used in the determination of the distribution price for the Tariff Year 2014.
- b) In 2015, Umeme Limited has been able to achieve an effective ROI similar to the ROI used in determination of the Distribution Price.
- c) Umeme Limited reports a gross profit (in the audited financial statements) higher than the distribution revenue requirement used in the determination of the Distribution Price.

Based on the above background, the Authority undertook an analysis of the financial and commercial performance of Umeme Limited for the Tariff Years 2014 and 2015. This review has taken into consideration the assumptions used for tariff determination, the reporting by the company to ERA, and the audited financial statements for the years ended 31st December 2014 and 31st December 2015.

In addition, the Authority has undertaken a computation of the PSP reconciliation. The computed amount by the Authority is Ush 43,135.93 Million for the period January 2010 to June 2016. In 2013, the Authority approved PSP reconciliation amounting to Ush 9,686 Million for the period January 2010 to December 2011.

The total amount provided for in the computation of the distribution Price on account of PSP reconciliation for 2017 is Ush 33,449.93 Million.

9. NON-CORE ASSETS/ NON NETWORK ASSETS

In accordance with Amendment Number two, investments in non-core assets which do not directly improve or expand the distribution network shall not be classified as investments for the purposes of computing the ROI. These shall be classified as DOMC.

The Authority approved the Umeme Limited non-network assets plan for 2017 amounting to US\$ 1,670,896. This amount (US\$ 1,670,896) has been used in the determination of the Distribution Price for 2017.

10. SKILLS DEVELOPMENT IN THE ELECTRICITY SUPPLY INDUSTRY

Following the decision of the Authority to approve skills development in the Electricity Supply Industry, the Authority has provided for Ush 980 million in the determination of the tariff for 2017 as shown below.

Company	Amount – Ush
UETCL	368,000,000
Umeme Limited	392,000,000
Eskom Uganda Limited	122,000,000
Bujagali Energy Limited	49,000,000
UEGCL	49,000,000
Total	980,000,000

11. OTHER CHARGES NOT PROVIDED IN THE RETAIL TARIFF

10.1 Monthly service charge

In the 2017 tariff application, Umeme Limited indicated that the current monthly service fees may not reflect changes in the macroeconomic variables since the last adjustment in 2012.

Umeme Limited, however, did not submit proposals for adjustment of the monthly service fees including the underlying assumptions and justifications for consideration by the Authority.

In the absence of the submission, the monthly service charges have remained unchanged.

10.2 PREPAYMENT FLAT RATE

In the tariff application, Umeme Limited requested that customers on prepayment metering be charged a flat rate. The company explained that a single flat rate will address complaints from customers concerning the interpretation of the vending receipts owing to the many lines and complaints reflected on the receipts.

Umeme Limited however did not provide in its submission/application sufficient information for the Authority to consider and make a decision.

10.3 Implementation of Extra-Large Industrial Customer Category

The Authority approved creation of the extra-Large Industrial customer category. The adjusted customer categorization is shown in Table 20.

Table 20: Reclassification of customer categories

Code 10.1 Domestic Customers Low voltage single phase supplied at 240 volts
Code 10.2 Commercial customers Three phase low voltage load not exceeding 100 Amperes
Code 20 Medium Industries Low voltage 415V, with maximum demand up to 500kVA
Code 30 Large Industries High Voltage 11,000V or 33,000V, with maximum demand exceeding 500kVA but up to 1,500 kVA
Code 40 Extra Large Industries High Voltage 11,000V or 33,000V, with maximum demand exceeding 1,500kVA and dealing in Manufacturing

In its application, Umeme Limited indicated that the company has undertaken the necessary system reconfiguration and testing for timely implementation.

12. MACROECONOMIC ASSUMPTIONS

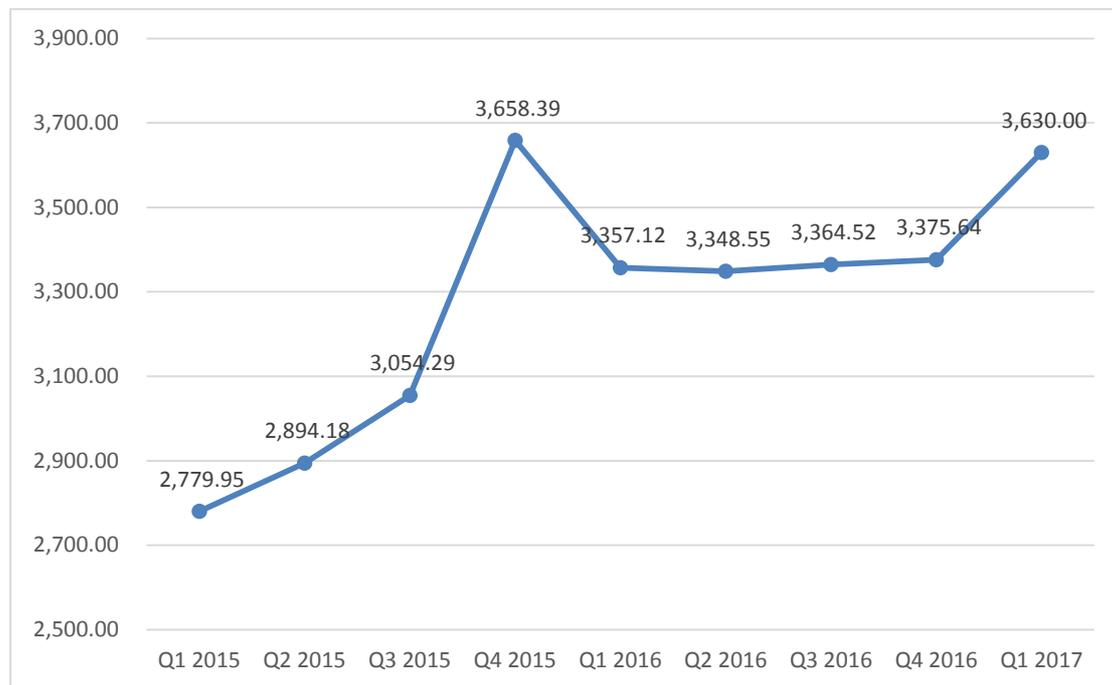
Key macroeconomic indicators that drive the tariff include the exchange rate, domestic inflation (Consumer Price Index) and the US Producer Price Index (PPI).

11.1 Exchange rate:

The Uganda Shilling depreciated against the US Dollar between November 2015 and November 2016. The exchange rate as at end of November 2016 was Ush 3,630/US\$ compared to Ush 3,357.1/US\$ at the end of November 2015. The trend of the exchange rate for the period under review is shown in Figure 4. This movement represents a 8.1% depreciation of the Shilling against the US Dollar as at end of November 2016.

The depreciation of the Uganda Shilling against the major currencies in 2016 is mainly attributed to foreign currency outflows for offshore investments in Treasury Bills, Government Bonds and infrastructure investments requirement especially for Karuma and Isimba Hydro Power plants.

Figure 4: Exchange Rate of the Uganda Shilling against US Dollar Movement for November 2014 to November 2016



11.2 Inflation

The annual Consumer Price Index (CPI) for the month ending November 2016 was 159.4 compared to 152.28 in November 2015. The annual underlying inflation rate increased from 6.8% in November 2015 to 9.1% in November 2016. This increment is largely attributed to imported inflation arising from depreciation of the Uganda Shilling amidst a tight monetary policy regime exercised by Bank of Uganda in 2015.

Bank of Uganda continuously eased monetary policy by reducing the Central Bank Rate (CBR) from 17% in October 2015 to 13% in October 2016.

11.3 Producer Price Index (PPI)

The US PPI increased marginally from 193.2 in November 2015 to 196.4 in November 2016, representing a 1.65% increment. This was mainly attributed to finished consumer goods and crude material.

13. REVENUE REQUIREMENT, TARIFF AND SUBSIDY IMPLICATIONS

12.1 Revenue Requirement

As a result of the assumptions considered, the annualized revenue requirement of Eskom Uganda Limited increased from Ush 52,412 Million in 2016 to a base of Ush 54,440 Million in 2017.

The annualized revenue requirement of UETCL (excluding the power acquisition costs and dispatch stabilization fund) increased from Ush 102,953 Million in 2016 to Ush 126,122 Million in 2017. This is mainly on account of the increase in the Rural Electrification Levy on account of increase in Power purchase costs and adjustment for UETCL Operations and Maintenance Costs.

The annualized power acquisition costs (excluding the capacity payments to all thermal generators) increased from Ush 833,316 Million in 2016 (excluding claw back) to Ush 960,044 Million in 2017. The increment is on account of increased power purchase costs following the anticipated dispatch from the thermal plants to meet the increased demand beyond what the current renewable energy capacity can meet.

Umeme's annualized revenue requirement increases from Ush 495,153 Million in 2016 to Ush 558,445 Million in 2017, mainly on account of the increase in investment-related costs and the depreciation of the Uganda Shilling against the United States Dollar in the fourth quarter of 2016.

Table 21: Summary of Revenue Requirements

	Eskom Generation				Transmission				Other power purchases	Export revenues	Distribution			
	Total	Asset related	O&M	Lease fee	Total	Asset related	O&M	Leves & Funds	Total	Total	Total	Asset related	O&M	Lease fee
	USh mill	USh mill	USh mill	USh mill	USh mill	USh mill	USh mill	USh mill	USh mill	USh mill	USh mill	USh mill	USh mill	USh mill
Q4 2016	52,412	14,754	28,984	8,675	102,953	-	69,274	33,679	833,316	89,585	495,153	341,990	147,545	5,618
Q1 2017	54,440	13,011	34,860	6,569	126,122	-	93,600	32,522	960,044	73,212	558,445	394,147	158,383	5,915

12.2 Resultant Tariffs

12.2.1 Capacity Price for Eskom (u) Limited

The Capacity Price as shown in Table 22 decreases from Ush 45,025 per MW per hour in 2016 to Ush 43,112 per MW per hour in 2017. The decrease is attributable to increase in Tested Capacity and high Target

Availability Factor despite the increase in Eskom Uganda Revenue Requirement. The Capacity Price has reduced despite the increased investments that qualify for a return by Eskom Uganda Limited, and adjustment of Generation Operation and Maintenance Costs for Consumer Price Index.

Table 22: Capacity Price

	Average Capacity Price	Total costs	Investment component	Capital recovery charges	Return on investment	Net accumulated investment	Income taxes payable	O&M component	USh-portion of O&M	US\$-portion of O&M	Concession fee
	CP y.q	USh mill	IN y. q	CR y	RT y	NI y	TX y	OM y. q=1	LOM y. q	EOM y. q	LP y. q=1
	Ushs/ MW		USh mill	US\$ thous	US\$ thous	US\$ thous	US\$ thous	Ush mill	Ush mill	Ush mill	US\$ thous
Q4 2016	45,025	52,412	14,754	1,002	1,640	13,667	703	28,984	16,037	9,469	8,675
Q1 2017	43,112	54,440	13,011	1,098	1,740	14,500	746	34,860	18,145	13,049	6,569

12.2.2 Bulk Supply Tariff (BST)

The annualized bulk supply costs increase from Ush 885,729 Million in 2016 to Ush 992,786 Million in 2016. The expected bulk energy sales to Umeme excluding exports are projected at 3,413 GWh.

The resultant Base Bulk Supply Tariffs in 2017 increase to Ush 379.9/kWh, Ush 292.2/kWh, and Ush 184.1/kWh at Peak, Shoulder and Off-peak respectively, from Ush 337.2/kWh, Ush 259.4kWh, and Ush 157.7/kWh at Peak, Shoulder and Off-peak for the respective Time of Use periods in the fourth quarter of 2016, as shown in Table 23.

Table 23: Bulk Supply Costs and Resultant Bulk Supply Tariffs (BST)

	Peak price	Shoulder price	Off-peak price	Sales to distributors	Total costs	Power Purchase Costs	Transmission costs	Total asset related costs	Total O&M component	Other
	USh/kWh	USh/kWh	USh/kWh	GWh	USh mill	USh mill	USh mill	Ush mill	Ush mill	Ush mill
Q4 2016	337.2	259.4	157.7	3,283	988,682	885,729	102,953	-	69,274	33,679
Q1 2017	379.9	292.2	184.1	3,413	1,118,908	992,786	126,122	6,412	87,188	32,522

The movement in the BST between the fourth quarter of 2016 and the first quarter of 2017 is as shown in Table 24.

Table 24: Movement in the Bulk Supply Tariff

	Bulk Supply Tariff (Ush/kWh)		
	Peak	Shoulder	off Peak
Q4 2016	337.2	259.4	157.7
Q1 2017	379.9	292.2	184.1
Percentage Increase	12.6%	12.6%	16.7%

14. END USER TARIFFS

In accordance with Amendment number two of the Umeme Limited License for Supply of electricity, the retail tariff charges for electric service shall be subject to and liable for automatic fuel cost charges, foreign exchange rate fluctuation adjustment, and an inflation adjustment that will be calculated in accordance with such formulae as determined by the Authority. In 2014, the Authority approved a Quarterly Tariff Review Methodology to be used in the computation of the tariff adjustments on a quarterly basis.

The approved end-user tariffs for Q1 2017 are as shown in Table 25. The Q1 2017 tariffs will also be the 2017 base tariffs upon which the quarterly adjustment factor shall be applied.

Table 25: Approved Electricity end-user tariff for Q1 2017

End-User Retail Electricity Tariffs (Ush/kWh)							
	Domestic	Commercial	Medium Industrial	Large Industrial	Extra Large	Street-lights	Weighted average
2016 Base Tariff	651.0	587.0	544.9	369.4	369.4	628.4	491.7
Q2 2016 Approved Tariff	640.2	578.3	536.1	361.1	361.1	619.5	484.6
Q3 2016 Approved Tariff	626.0	566.9	524.7	349.5	349.5	608.0	472.4
Q4 2016 Approved Tariff	623.6	565.1	523.0	347.1	347.1	606.2	470.2
2017 Approved Base Tariffs	696.9	629.0	577.8	376.3	372.8	679.7	513.2
Percentage Change from Q4 2016	11.7%	11.3%	10.5%	8.4%	7.4%	12.1%	9.2%

The resultant tariff at the different Time of Use periods is shown below:

Base						
Capacity fee 43,112 Shs/MW per hour						
BST Peak 379.9 Shoulder 292.2 Off-peak 184.1 Shs/kWh						
	Code 10.1	Code 10.2/10.3	Code 20	Code 30	Code 40	Code 50
	Domestic	Commercial	Medium Industrial	Large Industrial	Tx large Industrial	Street-lights
Standing & max demand charges						
Monthly fee	3,360	3,360	22,400	70,000	70,000	-
Max demand 1			16,644	11,096	11,096	
Max demand 2				5,548	5,548	
Power supply (Shs/kWh)						
Average	398.6	350.67	351.04	343.76	325.7	358.2
Peak		454.7	453.6	456.3	432.2	
Shoulder		349.8	349.0	351.0	332.5	
Off-peak		220.2	219.6	220.9	209.3	
Distrib charge (Shs/kWh)						
Average	296.1	276.4	224.9	31.4	46.0	319.4
Peak		359.4	292.3	40.8	59.8	
Shoulder		276.4	224.9	31.4	46.0	
Off-peak		169.50	134.03	22.45	32.86	
Tariff relief						
Government tariff relief	-	-	-	-	-	-
Generation levy						
Generation levy	2.1	1.8	1.9	1.1	1.1	2.0
Total energy tariff (Shs/kWh)						
Average	696.9	629.0	577.8	376.3	372.8	679.7
Peak		815.9	747.9	498.2	493.1	
Shoulder		628.1	575.7	383.5	379.6	
Off-peak		391.5	355.6	244.5	243.3	