



***Regulating Energy for Sustainable Development***

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MALAWI ENERGY REGULATORY AUTHORITY

END USER TARIFF DETERMINATION PROCEDURES AND INFORMATION  
REQUIREMENTS

**SEPTEMBER 2017**

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## **1. BACKGROUND**

Economic regulation is dynamic and forms of regulation change from time to time depending on the structure of the industry, size of the firms and overall policy objectives. The Government of Malawi embarked on reforms in key economic sectors of the economy in order to increase efficiency and reduce poverty through economic growth. One of the key sectors affected by these reforms is the energy sector. In particular, the power market has been reformed by unbundling ESCOM through carving out the generation segment thereby developing a new stand-alone generation company called the Electricity Generation Company of Malawi Limited (EGENCO). The remaining part of ESCOM constitutes four business units namely: Transmission, Distribution, System and Market Operator (SMO) and the Single Buyer (SB). This change in the power market structure necessitated a change in the economic regulation of the electricity industry. Accordingly a new tariff methodology has been developed to cater for this.

This paper provides the process and methodology of tariff setting in the electricity sector as at September 2017. It details the procedures for determining electricity tariffs for customers directly regulated by the Malawi Energy Regulatory Authority (MERA), other than customers regulated through Power Supply Agreements (PSAs) or Power Purchase Agreements (PPAs). It provides both MERA's administrative process of handling a tariff review for Utilities in the Electricity Supply Industry (ESI) and how tariffs for various retail customer categories are determined.

## **2. LEGAL PROVISION**

The MERA draws its mandate to determine electricity tariffs from the Electricity Act of 2004 Section 16, 17 and 18 of the Laws of Malawi which provides as follows:

The Tariff Schedule shall:

- (a) be in a form which shall be approved by the Regulator considering the principles of:
  - I. predictability of adjustments,
  - II. financial sustainability of licensees,
  - III. price stability,
  - IV. equity and fairness,
  - V. cost of service,
  - VI. improving quality of service, and
  - VII. Considering the value of the Malawi Kwacha in relation to foreign currencies.

- (b) contain such detail as shall be necessary to enable any customer to make a reasonable estimate of the charges to which he would become liable for purchases of electricity;
- (c) be set at levels sufficient to allow the licensee an opportunity to recover his costs of service, including a reasonable return on capital and encourage efficiency;
- (d) be set excluding expenses that cannot be reasonably associated with the supply of electricity; and
- (e) separately identify in its determination:
  - I. the component of the tariff relating to the use of the Licensee's Distribution System and Customer Service to end-users;
  - II. the component of the tariff relating to the use of the Transmission System;
  - III. the component of the tariff relating to the System and Market Operation (hereinafter SMO);
  - IV. the component of the tariff relating to Single Buyer (hereinafter SB); and
  - V. the component of the tariff related to electricity generation and imports.

### **3. GOVERNMENT POLICY GUIDELINE ON PRICING OF ELECTRICITY TARIFFS**

The Government of the Republic of Malawi, National Energy Policy (NEP) of 2003 seeks to expand generation and transmission capacity and also accessibility to electricity and private participation. Consequently, among the policy measures and strategies to achieve this objective is to migrate electricity tariffs to Cost reflective levels. Therefore, in electricity tariff determination, MERA is guided by the need to move tariffs to cost reflectivity.

### **4. ELIGIBILITY**

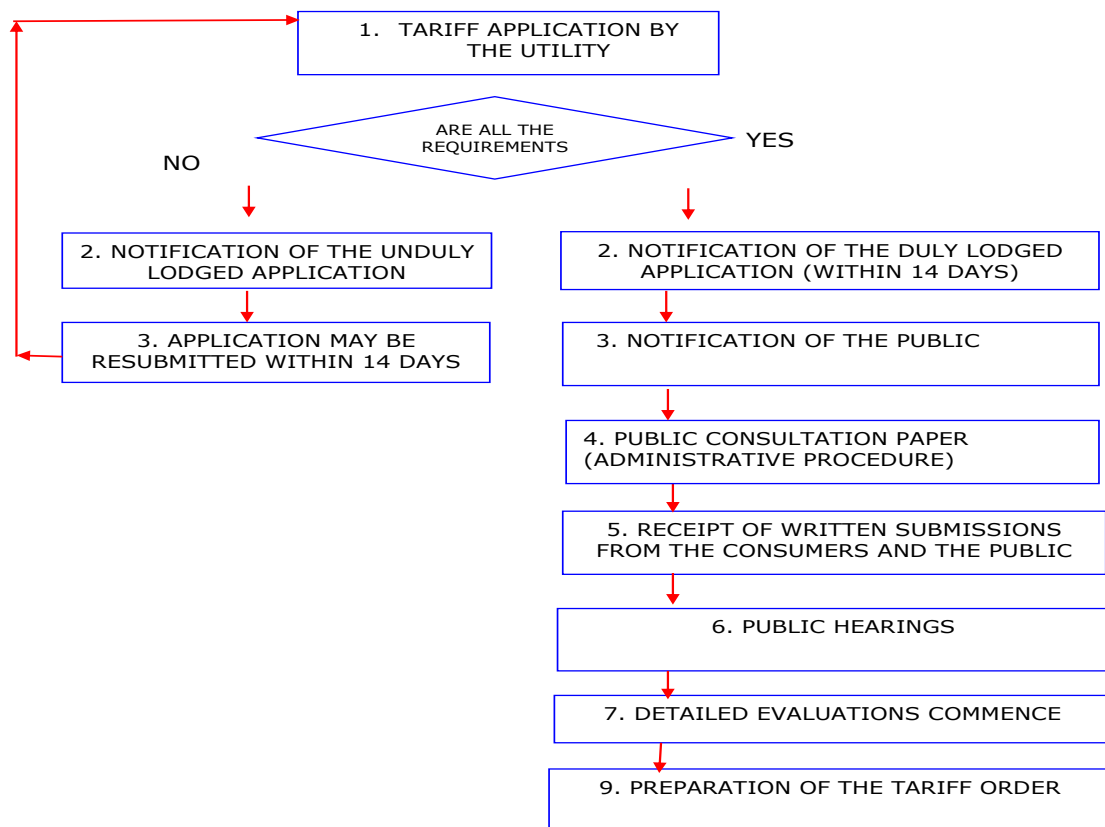
The process of determining electricity tariffs detailed in this paper covers the following customer categories:

- a) Domestic, Prepaid, Single Phase Supply
- b) Domestic, Post-paid, Single Phase Supply
- c) Domestic, Prepaid, Three Phase Supply
- d) Domestic, Postpaid, Three Phase Supply
- e) General, Prepaid, Single Phase Supply
- f) General, Post-paid, Single Phase Supply

- g) General, Prepaid, Three Phase Supply
- h) General, Post-paid, Three Phase Supply
- i) Maximum Demand - Low Voltage Supply (Large power for industrial users, supplied at three phase supply and metered at 400 Volts)
- j) Maximum Demand - Medium Voltage Supply (Large power for industrial users, supplied at three phase supply and metered at 11kV or 33kV)
- k) Public Service, Prepaid, Three Phase Supply, High Current Metering

## 5. TARIFF APPLICATION AND REVIEW PROCEDURE

### MERA MULTI-YEAR TARIFF DETERMINATION PROCEDURE



The tariff application shall be in accordance with the procedures outlined below:

### 5.1 Tariff Application

5.1.1 The process of tariff adjustment is initiated by the Utility. The Utility submits an application to the MERA for tariff adjustment, six (6) months, before the commencement of its financial test year<sup>1</sup>.

## **5.2 Notification of the duly Lodged Application**

5.2.1 MERA reviews the application to ensure that it conforms to the electricity by-laws and MERA Tariff Filling formats for SB, TL, DL, SMO and Customer Service provided in the annex. The applicant is notified that the application is duly submitted within 5 days of its submission.

## **5.3 Notification of the unduly lodged application**

5.3.1 Where a tariff application has not been duly lodged in accordance with the regulations and formats, MERA rejects the application and notifies the applicant within 5 days of receipt of the application. The notice shall give reason(s) for such a rejection. The applicant is, however, allowed to resubmit the application within 14 days of the notification of the unduly lodged application.

## **5.4 Notification to the public**

5.4.1 Once the application has been accepted by MERA as duly lodged, the Utility is obligated to issue a notice to customers and the general public, in print and electronic media of its intention to vary the tariffs for a period of 30 days.

5.4.2 The notice to the public by the Utility must specify the following:

- a) The proposed tariff adjustment in percentage terms per customer category;
- b) The current tariffs and proposed tariffs in monetary terms per customer category;
- c) Reasons for the proposed tariff adjustment;
- d) Latest audited statements of revenue, net profit/loss and proposed revenue, net profit/loss after tariff adjustment; and
- e) Areas where revenues derived from the proposed tariffs will be applied to.

## **5.5 Public Consultation Paper**

5.5.1 Although not a legal requirement under the Act, but as an administrative procedure to make the process transparent, once MERA accepts an application, it issues a Public Consultation Paper (PCP) for a period of 30 days in the print and electronic media inviting consumers to submit written submissions (Comments and their views) on the tariff application. The PCP may include information from the application. The Utility shall indicate in the application which of the information is deemed confidential. MERA shall make the final decision on confidentiality.

## **5.6 Receipt of written submissions from consumers and the public**

5.6.1 Written submissions from consumers and the public received by MERA shall be availed to the Utility before the public hearings are held. The applicant shall prepare written responses to the submissions which shall be submitted to MERA before the hearings.

## **5.7 Public Hearing**

5.7.1 Following receipt of submissions from consumers and members of the public, MERA convenes public hearings in selected parts of the country, where those who made written submissions and the applicant are accorded an opportunity to make oral presentations of their submissions.

5.7.2 The notice of invitation to the public hearing is issued to members of the public and those who made written submissions not later than 14 days after expiration of the notice inviting submissions.

## **5.8 Tariff Determination and Announcement**

5.8.1 After the public hearings, the MERA considers the application including submissions from various stakeholders and then renders its decision on the tariff application. Where no submissions have been received, MERA may proceed to consider the tariff application and makes its decision and an announcement to the public of the decision. The applicant is also notified in writing accordingly.

# **6. ELECTRICITY TARIFF DETERMINATION**

## **6.1 Revenue Requirement Methodology**

6.1.1 MERA uses the Revenue Requirement (RR) Methodology otherwise known as the Rate of Return (RoR) or the Cost of Service approach with a revenue cap in determining electricity tariffs.

6.1.2 The main principle of RoR is that revenues of the regulated Utilities have to cover their operating and maintenance expenses, taxes and depreciation, and have to ensure a fair rate of return on assets utilised for generating, transmission, distribution and supply of electricity. The generic formula for RR is shown below:

$$RR = O + D + T + (r*B)$$

*Where;*

*RR = Revenue Requirement*

*O = Allowed operating and maintenance expenses*

*D = Depreciation is allowed depreciation expense associated with the Rate Base*

*T = Corporation tax*

*r = Allowed rate of return (WACC or Benchmarked)*

*B = Rate Base (or Regulatory Asset Base)*

6.1.3 To arrive at a tariff, MERA reviews and verifies all information related to the components that make up the revenue requirement in the Utility's tariff application. The applicable formula for average tariff determination for each customer category is shown below:

$$TF = RR / E$$

*Where:*

*TF = average tariff per customer category*

*RR = Utility's revenue requirement attributable to a customer category*

*E = energy demand in kilowatt hours*

## **6.2 The principles underlying Revenue Requirement**

6.1.1 In determining tariffs for all customers, the MERA ensures that tariffs approved for each customer category reflect the cost each customer category imposes on the system;

6.1.2 Recovery of prudently incurred costs by the Utility, that is, only just and reasonable costs incurred wholly and exclusively for the provision of electricity are allowed in the tariff determination process;

6.1.3 Recognition of used and useful Utility assets, that is, only assets currently used by the utility to provide electricity to its customers are included in the rate base;

6.1.4 Financial sustainability of the Utility, that is, the applicable tariffs should enable the utility cover both capital and operational costs as well as earn a reasonable return;

6.1.5 The need to attain cost reflective tariffs;

6.1.6 Delivery of quality service, that is, the determined tariff must be accompanied by noticeable improvements in the quality of services provided; and

6.1.7 Social considerations for customers with low income levels, that is, the tariff must remain accessible and affordable.



### **6.3 Allowable operating and maintenance expenses**

6.3.1 Allowable operating expenses relates to all expenditure just and reasonable incurred wholly and exclusively for generation, transmission, distribution and supply of electricity. The costs include:

- a) Primary costs directly related to generation of electricity (diesel, water charges),
- b) Electricity purchases (from Independent Power Producers (IPP)s, Bilateral Agreements and Southern Africa Power Pool (SAPP));
- c) Wheeling charges;
- d) Staff costs;
- e) Maintenance costs;
- f) Financing costs;
- g) Operating costs;
- h) Overheads; etc.

6.3.2 The qualifying criteria for allowable operating and maintenance costs are outlined below:

- a) Expenses must be incurred in an arm's length transactions;
- b) Expenses must be incurred in the normal operation of generation, transmission, distribution and supply of electricity, including a reasonable level of refurbishment, repairs and maintenance costs;
- c) Expenses must be prudently incurred after careful consideration of available options. Such consideration would entail a competitive bidding and transparency in the procurement process;
- d) Limited expenses for research and development maybe included after MERA satisfies itself that they related to business operations.

6.3.3 Operating expenses that do not conform to the above criteria may not be included in the revenue requirement. This includes:

- a) Donations;
- b) Social Responsibility costs;
- c) Penalties;
- d) Unreasonable costs;
- e) Expenditure of a capital nature.

### **6.4 Allowable Depreciation expense**

6.4.1 The depreciation component of the allowed revenue requirement is computed on the Historical cost of the Rate Base on a straight line basis over the useful economic life of the asset.

### **6.5 Corporate Tax rate**

6.5.1 MERA shall use the marginal corporation tax rate to estimate the impact of taxation on the licensee. The tax rate is equal to fixed rate for manufacturing companies.

## **6.6 Rate of Return**

6.6.1 A real pre-tax rate of return shall be applied uniformly to all used and useful assets deployed by the Utility in generation, transmission, distribution and supply of electricity. The rate is determined through a weighted average cost of capital based on the appropriate debt to asset ratio.

## **6.7 Rate Base or Regulatory Asset Base**

6.7.1 The Rate Base or Regulatory Asset Base covers all assets employed by the regulated Utility in generation, transmission, distribution and supply of electricity. The following are conditions associated with determining whether assets may be included in the rate base.

- a) Assets held by the Utility must be used and useful for the purpose of generating, transmission, distributing and supplying electricity and must be long-term in nature. Used and useful means that assets should be in a condition to supply demand in the short-term (i.e. within 12 months) and long-term in nature means that assets will remain used and useful for a period of more than 12 months.
- b) Subsidized assets not financed by the Utility may not be included in the rate base
- c) Future assets are excluded from the rate base until they are useful and useful (enter into commercial operation).
- d) Working capital is determined as a proportion of the Utility's annual Operating expenses.

## **6.8 Asset Valuation**

6.8.1 Asset valuation for the purpose of determining the Rate Base is based on the Depreciated Replacement Cost.

## **7.0 Tariff filing and information Requirement by Licensees**

All the licensees, through the SB, shall be required to file for tariffs in through MERA specified formats attached in the annexes. MERA shall require the submission to be done both hard copy and electronically.

The licensee shall furnish to the Authority, such additional information, particulars and documents as the Authority may require from time to time after such filing of revenue calculations and tariff proposals.

The licensee shall publish, for the information of the public, the contents of the application in an abridged form in such manner as the Authority may direct and shall host the complete copy of the filing on its website.

The Transmission, SMO and Distribution and Customer Service Licensee shall be allowed to apply for an extraordinary review in case the accumulated change in the indexation formula during any year surpasses +/-5%.

### **7.1 Information Requirements from specific Licensees**

The general requirements for information are specified in the specific tariff submission workbooks. The licensees shall file for tariff on or before 30th of December of the year preceding the first year of the base tariff period. Depending on circumstances, the Authority may however change this to some other date. As part of filing for the tariff, the licensees shall also submit a business plan. The business plan shall cover the entire base tariff period and shall, among other things, contain information that will guide the Authority in its role as it considers the tariff application by a licensee. It is therefore incumbent upon all licensees to ensure that the information in the business plan is complete and accurate as anything contrary to this will delay the tariff approval process. On the basis of the players in the new power market, the licensees will be required to submit to the Authority the information as indicated below.

#### **7.1.1 Information from the Distribution and Customer Service licensee:**

- a) sales/demand forecast for each customer category and sub-categories for each year of the entire base tariff period;
- b) the licensee proposal for sale of electricity for the consumers pertaining to customer service business, which shall include tariffs for each consumer category, slab-wise and voltage-wise. The proposed tariff may also be based on energy charges, demand charges, minimum charges, etc along with the tariff rationalization measures;
- c) distribution loss reduction trajectory for each year of the base tariff period;
- d) collection efficiency for each year of the base tariff period;
- e) power procurement plan based on the sales forecast and distribution loss trajectory for each year of the business plan period; the power procurement plan should also include energy efficiency and demand side management measures;
- f) Capital investment plan: This shall take into account the sales/demand forecast, power procurement plan, distribution loss trajectory, targets for quality of supply, etc. The capital investment plan shall be consistent with the perspective of the transmission development plan, and shall include the corresponding capitalization schedule and financing plan. The Authority shall approve capital investment plan of the licensee

for the base tariff period commensurate with load growth, distribution loss reduction and quality improvement proposed in the business plan;

- g) the appropriate capital structure of each planned project and cost of financing (interest on debt and return on equity), terms of the existing loan agreements, etc;
- h) the Operation and Maintenance (O&M) costs estimated for the base year and the forecast for each year of the base tariff period based on the proposed efficiency in operating costs, norms for O&M cost allowance including indexation and other appropriate mechanisms;
- i) details of depreciation based on the fair life of the asset and capitalization schedules for each year of the base tariff period;
- j) a set of targets proposed for other items such as collection efficiency, bad debts, working capital, quality of supply targets, etc. The targets shall be consistent with the capital investment plan proposed by the licensee;
- k) proposals for non-tariff income, with item-wise description and details;
- l) proposals in respect of income from other businesses like consultancy services, convergence, training facilities, etc;
- m) other information: This shall include any other details considered appropriate by the distribution licensee for consideration during determination of tariff; and
- n) the filings in addition to the base tariff period, shall also contain the data for the cost and revenue parameters for the last two years.

#### **7.1.2. Information from the Transmission Licensee:**

- a) energy forecast for each year of the base tariff period;
- b) transmission loss reduction trajectory for each year of the base tariff period;
- c) power procurement plan based on the demand forecast and transmission loss trajectory for each year of the business plan period; the power procurement plan should also include energy efficiency and demand side management measures;
- d) Capital investment plan: This shall take into account the demand forecast, power procurement plan, loss trajectory, targets for quality of supply, etc. The capital investment plan shall be consistent with the transmission development plan, and shall include the corresponding capitalization schedule and financing plan. The Authority shall approve capital investment plan of the

licensees for the control period commensurate with load growth, distribution loss reduction and quality improvement proposed in the business plan;

- e) the appropriate capital structure of each planned project and cost of financing (interest on debt and return on equity), terms of the existing loan agreements, etc;
- f) the Operation and Maintenance (O&M) costs estimated for the base year and the forecast for each year of the base tariff period based on the proposed efficiency in operating costs, norms for O&M cost allowance including indexation and other appropriate mechanism;
- g) details of depreciation based on the fair life of the asset and capitalization schedules for each year of the control period;
- h) a set of targets proposed for other items such as working capital, quality of supply targets, etc. The targets shall be consistent with the capital investment plan proposed by the licensee;
- i) proposals for non-tariff income, with item-wise description and details;
- j) proposals in respect of income from other businesses like consultancy services, convergence, training facilities, etc;
- k) other information: This shall include any other details considered appropriate by the distribution licensee for consideration during determination of tariff; and
- l) the filings in addition to the base tariff period, shall also contain the data for the cost and revenue parameters for the last two years.

#### **7.1.3. Information Requirement from System Market Operator licensee**

- a) Capital investment plan: This shall take into account the demand forecast, power procurement plan, loss trajectory, targets for quality of supply, etc. The Authority shall approve capital investment plan of the licensees for the base tariff period commensurate with load growth, distribution loss reduction and quality improvement proposed in the business plan;
- b) the appropriate capital structure of each planned project and cost of financing (interest on debt and return on equity), terms of the existing loan agreements, etc;
- c) the Operation and Maintenance (O&M) costs estimated for the base year and the forecast for each year of the control period based on the proposed efficiency in operating costs, norms for O&M cost allowance including indexation and other appropriate mechanism;

- d) details of depreciation based on the fair life of the asset and capitalization schedules for each year of the control period;
- e) a set of targets proposed for other items such as working capital, quality of supply targets, etc. The targets shall be consistent with the capital investment plan proposed by the licensee;
- f) other information: This shall include any other details considered appropriate by the distribution licensee for consideration during determination of tariff; and
- g) the filings in addition to the control period, shall also contain the data for the cost and revenue parameters for the last two years.

#### **7.1.4. Information Requirements from the Single Buyer licensee**

- a) sales/demand forecast for each year of the base tariff period;
- b) Capital investment plan: This shall take into account the demand forecast, power procurement plan, loss trajectory, targets for quality of supply, etc. The Authority shall approve capital investment plan of the licensees for the base tariff period commensurate with load growth, distribution loss reduction and quality improvement proposed in the business plan;
- c) the appropriate capital structure of each scheme proposed and cost of financing (interest on debt and return on equity), terms of the existing loan agreements, etc;
- d) the Operation and Maintenance (O&M) costs estimated for the base year and the forecast for each year of the base tariff period based on the proposed efficiency in operating costs, norms for O&M cost allowance including indexation and other appropriate mechanism;
- e) details of depreciation based on the fair life of the asset and capitalization schedules for each year of the control period;
- f) a set of targets proposed for other items such as working capital, quality of supply targets, etc. The targets shall be consistent with the capital investment plan proposed by the licensee;
- g) other information: This shall include any other details considered appropriate by the distribution licensee for consideration during determination of tariff; and
- h) the filings in addition to the control period, shall also contain the data for the cost and revenue parameters for the last two years.

#### **7.1.4. Information Requirements from Generation Licensee**

- a) sales/demand forecast for each year of the base tariff period;
- b) capital investment plan: This shall take into account the demand forecast, power generation plan, loss trajectory, targets for quality of supply, etc. The Authority shall approve capital investment plan of the licensees for the base tariff period commensurate with load growth and quality improvement proposed in the business plan;
- c) the appropriate capital structure of each planned and/or existing power plant and cost of financing (interest on debt and return on equity), terms of the existing loan agreements, etc;
- d) the Operation and Maintenance (O&M) costs estimated for the base year and the forecast for each year of the base tariff period based on the proposed efficiency in operating costs, norms for O&M cost allowance including indexation and other appropriate mechanism;
- e) details of depreciation based on the fair life of the asset and capitalization schedules for each year of the control period;
- f) a set of targets proposed for other items such as working capital, quality of supply targets, etc. The targets shall be consistent with the capital investment plan proposed by the licensee;
- g) other information: This shall include any other details considered appropriate by the generation licensee for consideration during determination of tariff; and
- h) the filings in addition to the control period, shall also contain the data for the cost and revenue parameters for the last two years.

### **7. TARIFF STRUCTURE**

7.1 The current tariff structure comprises, maximum demand charges, fixed monthly charges, an energy charge and prepaid unit charges.

### **8. TARIFF DECISION TIME SCALE**

8.1 The Tariff review process has to be completed within 150 days from the date of receipt of duly lodged application as provided for under the Tariff Filing Guidelines.