

# **PRICING PROCEDURE FOR INTER-CONNECTED SYSTEM (ICS) AND LARGE ISOLATED SYSTEMS No 1/2005**

## **1 SECTION ONE: GENERAL**

### **CHAPTER ONE**

#### **Genera**

#### **Art. 1 Issuing Authority**

This Price Setting Procedure is issued by the Agency in accordance with Art 32(2) of the Council of Minister's Electricity Operation Regulations No. 49/1999.

#### **Art. 2. Short Title**

This Procedure may be cited as the "Pricing Procedure for Inter-connected System (ICS) and Large Isolated System No. 1/2005."

#### **Art. 3 Definitions**

In this procedure, unless the context requires otherwise:

1. "Bulk Supply Price" means the transfer price between EEPCo's transmission/single buyer activity and EEPCo's distribution activity;
2. "c used as a subscript" mean the subscript c next to a symbol denotes that this symbol refers to the Current Financial Year;
3. "c+1 used as a subscript" means the subscript c+1 next to a symbol denotes that this symbol refers to the Following Financial Year;
4. "c-1 used as a subscript" means the subscript c-1 next to a symbol denotes that this symbol refers to the Previous Financial Year;
5. "c+2 used as a subscript" means the subscript c+2 next to a symbol denotes that this symbol refers to the Financial Year after the Following Financial Year;
6. "Current Financial Year" means the financial year at the time when a Pricing Submission is made. This will normally be at the end of the Financial year;
7. " Independent Distributor" means a distribution Licensee other than EEPCo;
8. "Following Financial Year" means the Financial Year after the Current Financial Year;
9. "Forecast Allowed Revenue" means the allowed revenue calculated ex ante using forecast financial data (rather than actual data). that is used in the Price Applications;
10. " Financial Year" means the Ethiopian financial year, from 8, July to 7, July (Hamele 1 to Sene 30 Ethiopian Calendar );

11. "Large Isolated System Licensees" means Licensees that are isolated from the ICS and with a Peak Demand exceeding 500kW;
12. "Licence" means a License for generation, transmission, distribution and sale, export or import that is issued by the Agency;
13. "Licensed Activity" means the activity or activities that the Licensee is Licensed by the Agency to undertake;
14. "Licensee" means a person holding a Licence;
15. "Multiple Licence Holder" means a person holding more than one Licence;
16. "Outturn Actual Revenue" means the audited revenue that has been actually collected by the Licensee;
17. "Outturn Allowed Revenue" means the allowed revenue calculated ex post using actual financial data (rather than the forecast data) that is used in Price submissions;
18. "Out turn costs" means costs actually incurred in the previous financial year;
19. "Peak Demand" means the highest level of demand for electricity, averaged over any one-hour period, experienced on a Licensee's network in a Financial Year. In the case of Multiple License Holders the highest level of demand shall be the sum of the Peak Demands for each of the distribution networks;
20. "Previous Financial Year" means the Financial Year before the Current Financial Year;
21. "Regulatory Asset Base" means the assets that are allowed by the Agency for the purpose of calculating the allowed profits (normally calculated using a rate of return on assets) and depreciation charges. The value of the Regulatory Asset Base may differ from the value of net fixed assets reported in a Licensee's statutory accounts since some assets may have been disallowed by the Agency;
22. "Price submission" means a submission that is annually made by a Licensee for a subsequent price review to be made by the Agency;
23. "Price Application" means an application made by a Licensee, when price changes are required, to allow revenues to be sufficient to cover operating expenditure and finance new investment, and to demonstrate cost builds up and performance of the existing Price to the EEA. A Pricing application is not related to a change in the structure or design of Prices;
24. "Price Structure" means the details relating to the Price schedule including customer categories, demand and kWh charges, Price blocks, lifeline rates, seasonal and time-of-use charges, fixed charges, charges for reactive power, charges for un-metered supplies, charges for supply at different voltages, and other characteristics of electricity price;
25. "Price Structure Application" means an application made by a Licensee, usually, but not necessarily, at 4-year intervals, for a change to the structure of electricity price to allow Price to be more cost reflective or to introduce social Price. A Price Structure Application is not related to a change in the average Price levels;

26. "Operating Expenditures" means an amount of asset consumed and service used in the process of producing and supplying electric services;
27. "Person" means a natural or juridical person;
28. "Regulations" means the Electricity Operation Council of Minister's Regulation No. 49/99;
29. "Proclamation" means Electricity Proclamation No. 86/1997;
- 30.** "Ministry" means Ministry of Infrastructure;

### **Abbreviation**

1. "EEA" means the Ethiopian Electricity Agency;
2. "EEPCo" means the Ethiopian Electric Power Corporation;
3. "IAS" means International Accounting Standards;
4. "ICS" means The Interconnected (electricity) System (network);
5. "IPP" means Independent Power Producers;
6. "PPA" means Power Purchase Agreement;
7. "SCS" means Self-Contained System;
8. "KVA" means Kilo Volt Ampere;
9. "kWh" means Kilo Watt Hour;
10. "WACC" means Weighted Average Cost of Capital;
11. "CAPM" means Capital Asset Pricing Model;
12. "MLH" means Multiple License Holder;

### **Art. 4 The Objectives of the procedure**

The objectives of this procedure are :

1. to guide Licensees in the preparation of Price Submissions of the same to the Agency;
2. to guide the staff of the Agency where, as a last resort, they are required to prepare price themselves;
3. to be used as a reference check list by the Agency when annually reviewing the prices of electricity services;
4. to conduct on regular bases an annual review of Licensee's financial prudence and price performance with a view to determining the need for an upward or downward revisions of prices and charges as per Art 33 (1 &2) of the Regulation;

### **Art. 5 Scope of the Procedure**

The procedure applies to the two types of Licensees namely:

- EEPCo's Inter Connected System (ICS); and
- Large Isolated System Licensees including those of EEPKO's Self Contained System (SCS).

## **SECTION TWO: PRICE STRUCTURE METHODOLOGY, RESPONSIBILITY AND END USER AND INTER-COMPANY PRICING PRINCIPLES CHAPTER TWO Price Structures**

### **Art. 6. Principles of Price Structure**

1. In setting electricity price cost reflective Price Structure is required to be developed by utilities.
2. In designing a Price Structure the utilities take into consideration that prices shall:-
  - 2.1 accurately reflect costs so as to achieve economic efficiency, via efficient allocation of resources.
  - 2.2 ensure equity and fairness between different types of consumers.
  - 2.3 be implementable with less difficulty.
  - 2.4 utilise appropriate metering and supply technology.
  - 2.5 to be simple to understand, and
  - 2.6 accommodate customer's ability to pay.
3. Price Structures shall be designed and updated on the basis of estimates of marginal (average) costs that shall be prepared at four years interval.
4. Basic Price Structure Methodology (Cost build up)
  - 4.1 generation pricing within the national grid system shall be based on:-
    - a) marginal generation capacity cost of an efficient generation facility to meet peak demand;

- b) marginal energy cost (costs not attributed to capacity cost in the case of hydro power plant) of efficient generation facility to meet base load demand; and
- c) generation cost of thermal plant (stand by ) (where relevant) and bulk purchase price (where there is) which shall be distributed on system marginal generation cost in accordance with planned generation.

4.2 generation pricing outside the national grid system (SCS) shall be based on:-

- a) marginal or average generation capacity cost of an efficient generation facility; and
- b) marginal or average energy cost for each facility to be averaged at system level on bases of average share of anticipated load.

4.3 transmission pricing shall be based on:-

- a) system marginal transmission capacity cost in the ICS; and
- b) average transmission capacity cost for the SCS (where relevant).

4.4 distribution Pricing shall be based on:-

- a) system marginal distribution capacity cost in the ICS; and
- b) estimated or actual accounting cost and an acceptable rate of return for the SCS.

4.5 the computation of supply costs as in above shall identify capacity and energy costs at various voltage levels of supply, seasons of supply time-of-use, variable components of costs for interruptible and non interruptible supply where relevant.

4.6 other charges based on:-

- a) marginal customer related costs of energy and power metering and billing costs; and
- b) capacity costs (for computing reactive power charge for reactive power consumption) that each unit of reactive power consumption entails at the voltage level where it is consumed;

## **Art. 7 Responsibilities for Price Structure**

1. Licensees shall submit their proposals for Price Structures to the Agency for review at intervals of four years.

2. The Agency shall review the proposals for Price Structures and shall submit to the Ministry, proposals that meet the conditions laid out below;
  - 2.1 Licensees may alternatively propose to the Agency that their Price Structures shall be based on Price Structures proposed by a third party whose Price designs have been submitted within the past four years. Such third parties may include another Licensee (such as EEPCo), an industry representative body, a Consultant, an academic organization or any other body with the expertise to develop Price Structures.
  - 2.2 Licensees shall not propose to the Agency to use a Price Structure designed by a third party unless the relevant characteristics of the system for which this Price Structure was designed is similar to the relevant characteristics of the Licensee's system.
  - 2.3 Change to the Price Structure that are approved shall be announced to customers by Licensees no less than one month before the increases are due to take place.
  - 2.4 Licensees shall submit their Price Structure Applications to the Agency not less than six months before the start of the Following Financial Year (Y c+1)
  - 2.5 Licensees may make a submission to the Agency that proposes to maintain the existing Price Structure but shall provide justification for the continuation of the existing structures based on the information detailed in article 8.

## **Art. 8 Content of Price Structure Application**

1. The Price Structure Application submitted by Licensees shall contain a full justification for the proposed Price Structures including:
  - 1.1 marginal costs of capacity, energy, voltage of supply, season and time-of-day and for fixed (metering and billing) and variable components of cost and for interruptible and non-interruptible supply;
  - 1.2 description of the methodologies for calculating marginal costs,
  - 1.3 description of data and assumptions used to prepare marginal costs (demand projections, investment plans, fixed and variable operating costs, discount rates, etc.)
  - 1.4 customer data; typically load factors by customers group and seasonal and daily load patterns including weekdays and week ends (these may be referred to as coincidence factor and diversity factors).

2. sufficient detail shall be provided to the Agency by the Licensee to allow the Agency to replicate, if necessary, the calculations.
3. the review undertaken by the Agency shall consider the responsibilities for Price Structure set out in Art. 7 and shall reject proposals that do not comply with these principles.
4. the Agency shall comment on the proposed Price Structure within three months of submission to the Agency.

### **Art. 9 End-user Pricing**

1. End-user price is determined on the bases of the aggregates of; generation, transmission and distribution capacity costs; and energy costs and loss factors at an appropriate voltage level. Customers shall be responsible for supply costs at upstream voltage level of their connection point. Prices shall be determined in accordance with the provisions set out in Chapter Six.
2. End-user Prices shall be cost reflective except where the metering or other costs are prohibitive. [For example it is not economically efficient to charge residential consumers a demand charge (Birr/KW of maximum demand per month) because the cost of metering is very high compared to the value of the electricity supplied].
3. Charges shall incorporate Price components such as kWh and capacity charges, fixed and variable charges, seasonal and time-of-day components, variations by voltage of supply, geographical variations and other elements to allow cost reflectivity when it is cost effective to incorporate these components.
4. Marginal costs shall be estimated for capacity, energy, voltage of supply, season and time-of-day and for fixed (metering and billing) and variable components of cost and for interruptible and non-interruptible supply as may be appropriate.
5. Price that are designed for low-income household (lifeline price) may deviate from the rule that prices should be cost-reflective. Prices for low-income households shall be aimed primarily at the poor.
6. Special low Price may be charged to users who consume below certain KWh per month. Such level of consumption may be subsidised from those other electricity consumers whose consumption is less sensitive to electricity price.
7. Licensees shall not obliged to introduce lifeline Price, particularly where the pool of Price insensitive electricity consumption is small.

### **Art.10. Non-Tariff Charges**

1. Non-tariff charges shall be levied to recover the costs of (amongst others) individual customers such as: connection costs, meter-installation, alteration costs, the cost of network extensions and upgrading in the case of the extension of a distribution.

2. Costs to be recovered by electricity price shall not be in any way included in non-tariff charges.
3. Non-tariff charges shall be equitable and fair.
4. Non-tariff charges shall be imposed only on
  - a) Exclusively benefited specific customer
  - b) Exclusively benefited group of customers
5. Such charges shall be distinguished from tariff charges.
6. Non-tariff charges shall be recovered directly from the customer either as an up-front payment or as a monthly or annual amount.
7. Non-tariff charges shall be levied on customers as fixed charges.
8. Procedures for effecting non-tariff charges shall be submitted to the Agency together with submission of Price Structure Application or at any time upon the Agency's request.

## **CHAPTER THREE**

### **Inter-Company Pricing and Internal Transfer Pricing**

#### **Art. 11 Transfer Prices**

1. Inter-company and internal transfer prices shall include the following:-
  - 1.1 the Bulk Supply Price;
  - 1.2 independent distributors providing third-party access (wheeling) to their network for other independent distributors.
  - 1.3 A single Price for the Bulk Supply sold by the Single Buyer MLH to its own distribution activities. This submission shall relate to the consolidated costs of MLH's own generation plus the costs of electricity purchased from IPPs (where there is and subject to article 11(2.6) of this procedure) under contract (if any) plus the cost of transmission plus the cost of central administration of the single buyer function.
2. The Price Structures proposed by Licensees shall comply with the principles described below.
  - 2.1 the structure of inter-company prices and internal transfer prices shall follow the principles of cost reflectivity set out in Art. 13 of this procedure.
  - 2.2 the Bulk-Supply Price shall reflect the aggregate cost of generation and transmission and the EEPCo's own administrative costs.

- 2.3 the Bulk-Supply Price may vary by season and time-of-day and shall include capacity and energy components.
- 2.4 the Bulk-Supply Price shall apply different prices according to voltage of supply.
- 2.5 specific provisions relating to wheeling prices ( transmission price) structures are provided in Art. 12 below.
- 2.6 Licensees shall submit draft Power Purchase Agreement (PPA) before concluding a contract for bulk purchase and seek the Agency's approval as per the Regulation Art. 28 (3).

### **Art. 12 Wheeling Price (Transmission Pricing)**

1. For independent distributors operating outside the Inter Connected System independent distributors wheeling electricity to third-party independent distributors may charge a wheeling price.
2. The cost of losses shall be include in wheeling price (transmission use-of system) price.
3. Wheeling price (transmission use-of-system) prices shall include only a simple kWh charge (not varying with wheeling (transmission) distance).
4. Wheeling Price (Transmission price) shall differ according to the voltage of supply.

## SECTION THREE: ANNUAL PRICE REVIEW AND REVIEW METHODOLOGY

### **CHAPTER FOUR Price Review Methodologies**

#### **Art. 13. Principles**

On bases of the Price Structure developed after those principles in article 6 of this procedure, the review process shall consider the following end use pricing principle:

1. generate sufficient revenues to maintain the financial viability of Licensees and allow them to attract funds to finance required investments.
2. reflect the costs imposed on the electricity system by different users;
3. be competitive in comparison with similar services.

4. provide incentives for electricity to be supplied and used efficiently;
5. be designed such that users with similar usage patterns served by the same Licensee make similar payments; provided that, under special circumstances deviation in Price Structure and level may be necessary so as to provide for other considerations (economic and social conditions).
6. not discriminate between customers except on the basis of the costs they impose on the electricity system;
7. not include non-tariff charges in the price determination.

#### *Art. 14 Multiple License Holders( MLH)*

Multiple License holders (such as EEPCo) shall submit consolidated Pricing Submissions as follows:

1. A single Price Application and Price Submission relating to end-user Price for the distribution activities for the ICS.
2. The Agency shall instruct MLH whether it shall submit a single Price Application relating to end-user Price for the SCS/large isolated systems/ or whether MLH shall submit multiple applications for groups of isolated networks or for individual isolated networks.
3. From time-to-time, the Agency shall review whether there is significant variation in the size and costs of supply to MLH's isolated networks.
4. Where such large variation occurs, the Agency shall instruct MLH to submit multiple or consolidated submissions for its operation in the SCS.

#### **Art. 15 Annual Price Review Timetable**

1. Licensee shall submit Price Submissions for Price review for the Following Financial Year ( $Y_{c+1}$ ) to the Agency at the end of the current Financial Year ( $Y_c$ ).
2. The submissions made by Licensees shall be based on forecast for the Current Financial Year ( $Y_c$ ) using available financial information for the first six months of the current year and best estimates for the remainder of the current year (where recorded data not available) and for Following Financial Year ( $Y_{c+1}$ ).
3. Price Submissions that are received by the Agency at the end of the Current Financial Year shall be reviewed and if required, comments shall be sent to the Licensee within ten weeks of the receipt of the submissions.
4. The Licensee shall respond to such comments made by the Agency stating the measures to be taken on the comments.
5. when price changes are required, licensees shall submit Price Applications together with their annual Price Submissions.
6. On the basis of this procedure and Uniform System of Accounts, as may be appropriate, revenue shall be determined. Where appropriate Licensees shall make

price rebalance on the basis of this revenue. The Agency shall review the rebalanced price before implementation.

7. When the number of Licensees increases, the Agency may face a heavy workload during a short time period following the price submission. The Agency, therefore, may require Licensees to stagger their Price submissions rather than submit them all at the same time.
8. It shall remain at the Agency's discretion to consider, based on the principles in this section and subject to the objectives of this procedure (Article 4 (4)), an annual or accumulated interim price adjustment.
9. Licensees shall announce price changes to customers no less than one month before the increases are due to take place.

### **Art. 16 Content of Price Submissions**

1. Licensees shall submit with their annual Price Submissions:

- 1.1. Audited financial information for the Previous Financial Year ( $Y_{c-1}$ ) in the required format.
- 1.2. The Outturn Allowed Revenue for  $Y_{c-1}$  based on the outturn costs in the Previous Financial Year ( $Y_{c-1}$ ).
- 1.3. In the submissions, the Licensee shall show the variance between the Licensee's estimate of the Outturn Allowed Revenue for  $Y_{c-1}$  and the revenue that was approved in the Previous Financial Year (the Forecast Allowed Revenue for  $Y_{c-1}$ ) and the revenue that was actually collected by the Licensee (Outturn Actual Revenue for  $Y_{c-1}$ ).
- 1.4. Submissions for Price reviews for the Following Financial Year ( $Y_{c+1}$ ) shall show the Licensee's projections of costs and the Licensee's own estimate of allowed revenue (Forecast Allowed Revenue for  $Y_{c+1}$ ).
- 1.5. The Licensee's Forecast Allowed Revenue for  $Y_{c+1}$  shall be corrected for over- or under-recovery of revenues in the Previous Financial Year ( $Y_{c-1}$ ).

2. The Price submissions made by Licensees for review shall include, among other things, information on:

- 2.1 kWh sales and revenues by consumer group,
- 2.2 consumer numbers by consumer group,
- 2.3 monthly electricity production or purchases and monthly maximum demand,
- 2.4 annual electricity production by plant,
- 2.5 a summary description of major changes in the asset base,

- 2.6 monthly fuel consumption, if any, by plant,
  - 2.7 fuel consumption, if any, per KWh generated,
  - 2.8 annual energy losses,
  - 2.9 bill collection (account receivable at year end),
  - 2.10 year end staff per,
    - 2.10.1 KVA of annual maximum demand,
    - 2.10.2. KWh sold per year,
    - 2.10.3. Customer at year end.
  - 2.11 a summary of load shedding by month ,if any.
  - 2.12 non-tariff charges
3. The above information shall be used by the Agency to review the efficiency and performance of Licensees.
  4. Licensees shall provide explanations and commentary on any increase in costs, improvements in performance or worsening of performance.
  5. The Agency shall demand additional information or explanations where necessary to clarify data provided by a licensee or as part of the review of the efficiency of the Licensee to help the Agency undertake a quick Price review.
  6. Licensees shall be required to provide sufficient data and explanation with their initial Price Submission.
  7. Licensees shall be required to submit their financial data and calculations in electronic form in a spreadsheet model available from the Agency.
  8. The content of submissions for changes to the Price Structure are described in Article 8 of this procedure.
  9. Licensees shall present in the Price submissions the Outturn Allowed Revenue of the previous financial year (Yc-1) and the Forecast Allowed Revenue of the following financial year (Yc+1) calculated as described in sub article 1 of this Article.
  10. The Agency shall accept Price Applications that comply with this procedure or reject Price Applications that do not comply with this Procedure and notify the Licensees by means of formal written letter.

## **CHAPTER FIVE**

## Allowed Revenues and Operating Expenditures

### Art. 17 Allowed Revenues

The Forecast Allowed Revenue for the Following Financial Year shall be calculated as:

$$R_{c+1}^f = C_{c+1}^f + P_{c+1} \pm A_{c-1}$$

where:

$C_{c+1}^f$  = the Licensee's forecast of Allowed Operating Expenditures in the Following Financial Year calculated according to Art. 17 of this procedure.

$P_{c+1}$  = Allowed Profits, estimated using the criteria in Art. 12 of this procedure, for the Following Financial Year.

$A_{c-1}$  = correction for under- or over-recovery of revenues in the Previous Financial Year calculated by comparing the Outturn Allowed Revenue with the Actual Revenue.

### Art. 18 Operating Expenditures

1. Licensees shall include Operating Expenditures in the Price Submission that are incurred in undertaking the Licensed Activity.
2. Operating Expenditures unrelated to the Licensed Activity shall not be included in the Price Submission.
3. Licensees shall take reasonable steps to ensure that Operating Expenditures are kept to a minimum consistent with the provision of services at a level of quality identified in the Electricity Service Quality Standard Directives issued by the Ministry and updated from time to time. In particular:
  - 3.1. Expenses shall be incurred for the production, transmission, distribution or supply of electricity.
  - 3.2. Expenses shall be prudently incurred after careful consideration of available alternatives.
  - 3.3. Expenses shall be incurred in the normal operations of the business.
4. When an acceptable expense is incurred that requires capitalization, consideration shall be given by the Licensee to spreading the expenses over a number of years to match the time periods over which the benefit is derived.
5. Expenses on research and development, lobbying expenses and advertising may be included, in part or in whole if it can be reasonably regarded as related to the Licensed Activities.
6. Operating Expenditures included in Licensee's Price Submissions shall also comply with criteria listed in the Income Tax Proclamation No. 286/2002.

7. The Agency shall review operating expenditures in Price Submissions by comparison with comparable data from other Licensees or utilities in other countries and may require the Licensees to reduce the Operating Expenditures in the Price Submission to a level consistent with industry norms.
8. Licensees are encouraged to submit benchmarking information with their Price Submissions in support of their submissions on Operating Expenditures.

### **Art. 19. Demand-Side Management**

1. Licensees may include in the operating expenditures those recurring costs of demand-side management projects that have been approved by the Agency as part of a Licensee's energy saving plan.
2. Licensees shall include demand-side management investment costs in their regulatory asset base in accordance with the provision of Article 25.

## **CHAPTER SIX**

### **Return on Investment or Other Financial Criteria**

#### **Art. 20 Principle**

1. The profit levels or returns on investment may be set to reflect a rate of return on net asset values but profit levels may also be calculated using other criteria such that the utility achieves other financial targets such as debt service coverage or self-financing.
2. In calculating profit levels for EEPCO (retail distribution price) important loan covenant shall be appropriately used because of the special role the Corporation plays in the power sector; provided that, for the majority of Licensees (distributors using diesel generators or mini-hydro), and EEPCo bulk supply price (Article 14 of this procedure) rate-of-return criterion for setting revenue targets shall be used.

#### **Art. 21 Allowed Profit**

1. The formula for calculating Allowed profit shall be issued to Licensees, individually or collectively, by the Agency by means of a formal written letter. The formal written letter shall be issued within three months of the end of each Financial Year. However, where a Formal written letter has been issued to a Licensee in the Previous Financial Year or earlier, the Agency may choose to keep the formula unchanged and in this circumstance shall not issue a new formal written letter.
2. The Agency shall choose a formula that will, if the Licensee is reasonably efficient, allow the Licensee to earn a profit equivalent to that which a similar private company would earn. A similar company is one that provides services that have a similar risk profile to that of the Licensed Activity.

3. The Agency may take into consideration other relevant factors including financial covenants entered into by the Licensee with financing institutions.

### **Art. 22 Rate of Return**

$$P = \text{RoR} \times \text{RAB}$$

where:

P = Allowed Profit

RoR = Allowed Rate of Return

RAB = Regulatory Asset Base

### **Art. 23 Computation of Allowed Profit for a Rate of Return Regulated Licensees**

1. The Allowed Rate of Return to be used by Licensees shall be fixed from time to time and notified to Licensees.
2. The Agency shall estimate the rate of return by reference to the Weighted Average Cost of Capital (WACC) and the Capital Asset Pricing Model (CAPM).
3. Rate of return to be fixed shall reflect post-tax returns.
4. The Agency shall fix reasonable debt equity ratio to be used in the calculation of Allowed Rate of Return.

### **Art. 24 Computation of Allowed Profit for a Financial Covenant Regulated Licensees.**

#### **1. Self-Financing Ratio**

- 1.1 Profits shall be such that retained earnings are not less than 25% of the Licensee's capital expenditures expected to be incurred. This ratio is defined as:

Funds from Internal Resources  
Average 3 year Investment (including Interest During construction)

- 1.2 Fund from Internal Resources are defined as the difference between:

the sum of operating revenue from all sources, consumer deposits, consumer contributions, net non-operating income and any reduction in working capital other than cash; and

the sum of all operating expenses, including taxes and payments in lieu of taxes (excluding provision for depreciation and other non-cash operating charges), debt service requirements, all cash dividends and other cash

distributions of surplus, increase in Working Capital other than cash and other cash outflows other than capital expenditures.

## 2. Debt-Service Coverage

2.1 Profits shall be such that net revenues of the Licensee shall be at least (1.5) times the estimated maximum debt service requirements of the Licensee. This is defined as:

$$\frac{\text{Net Operating Revenue}}{\text{The Servicing Requirements for Long-Term Loans}}$$

2.2 Net Operating Revenue in this context means the difference between:

the sum of revenues from all sources related to operations and net non operating income; and

the sum of all expenses related to operations including administration, adequate maintenance, taxes and payments in lieu of taxes, but excluding provision for depreciation, other non-cash operating charges and interest and other charges on debt.

## Art. 25 Regulatory Asset Base

1. The Regulatory Asset Base shall comprise:

$$RAB = GV - \Sigma D + I + W$$

where:

RAB = regulatory asset base

GV = gross value of fixed assets in operation

$\Sigma D$  = accumulated depreciation

I = inventory

W = working capital

2. The Agency shall instruct Licensees from time to time regarding the basis for the valuation of the gross value of fixed assets and whether the assets shall be based on historic costs or re-valued and, if re-valued, the method by which they shall be re-valued.
3. The Agency shall review the asset additions described in the Price Submissions and may disallow assets from the Regulatory Asset Base if these assets are not in operation.
4. To avoid the risk that assets may be disallowed by the Agency from the Regulatory Asset Base after they have been commissioned, Licensees shall be required to seek the Agency's prior consents for their investments.

5. The Agency shall notify Licensees of any threshold values or other criteria that shall adopt in relation to seeking prior approval for investments.

## **Art. 26 Corrections**

1. Forecast Allowed Revenue for the Following Financial Year in the content of Price Submissions described in Art. 16 shall include a Correction Factor ( $A_{c-1}$ ) to correct for under-recovery or over-recovery of revenues in the Previous Financial Year as follows.

$$A_{c-1} = R_{c-1}^O - R_{c-1}$$

Where:

$A_{c-1}$  = Correction for the Previous Financial Year

$R_{c-1}^O$  = the Outturn Allowed Revenue for the Previous Financial Year.

$R_{c-1}$  = the outturn actual revenue for the Previous Financial Year

2. The actual revenue for the Previous Financial Year shall only be related to revenues relating to the Licensed Activities.

3. The Outturn Allowed Revenue for the Previous Financial Year shall be calculated as:

$$R_{c-1}^O = C_{c-1}^O + P_{c-1}$$

Where:

$C_{c-1}^O$  = the outturn costs in the Previous Financial Year calculated according to the Uniform System of Accounts issued by the Agency.

$P_{c-1}$  = Allowed Profits, re-estimated using the criteria in Art. 21 for the Previous Financial Year.

4. An adjustment may be made by the Licensee for loss of, or gain from potential interest on the Correction Factor at the Commercial Bank interest rate.

## **Art. 27 Price Calculations**

1. As may be required, a Price for the Following Financial Year shall be calculated by the Licensee using Price Structures as described in Articles 6-11 of this procedure and shall be presented in the Price Submissions.
2. The Prices shall be set at a level that shall be forecast by the Licensee to earn the Forecast Allowed Revenues for the Following Financial Year ( $R_{c+1}^f$ ).
3. The Price ( $P_{c+1}$ ) for the Following Financial Year shall be set by the Licensee such that:

$$P_{c+1} \times S_{c+1} = R_{c+1}^f$$

Where:

$P_{c+1}$  = the matrix of Price classes and components of Pricing (the Pricing schedule).

$S_{c+1}$  = a matrix representing projections of sales (kWh, kVA, consumer numbers, etc) in each Price class and for each component of the Price.

4. The Price ( $P_{c+1}$ ) shall be adjusted by the Licensees such that the allowed revenue ( $R^a_{c+1}$ ) is achieved.

SECTION FOUR: PRICE ADJUSTMENT, ACCOUNTING STANDARD AND REPORTING

## CHAPTER SEVEN Automatic Adjustments

### Art. 28 Automatic Adjustment

1. The Agency shall encourage Licensees to submit proposals for formulae for automatic adjustment of Pricing.
2. The Agency shall consider proposals from Licensees operating isolated grids for formulae for automatic adjustment of Price to reflect movements in the price of diesel. The formula shall take the form of:

$$P'_q = \frac{P_0 \times w \times (D_q + T)}{D_0} + P_0 \times (1 - w)$$

Where:

- $P'_q$  = average Price of electricity in period q after automatic adjustment for diesel cost movements
  - $P_0$  = base average price of electricity
  - $w$  = weighting of diesel costs in the allowed revenue (and therefore in the allowed price  $P_0$ )
  - $D_q$  = benchmark diesel price in period q
  - $D_0$  = diesel price, including transport cost, that is used to calculate the base price of electricity ( $P_0$ )
  - $T$  = transport cost used to calculate the base price of electricity ( $P_0$ )
3. The parameters  $P_0$ ,  $w$ ,  $T$  and  $D_0$  will vary from Licensee to Licensee but the benchmark price of diesel ( $D_q$ ) may be from a published source and common to all Licensees.
  4. The benchmark price shall be the data published by Ministry of Trade and Industry. The formula shall take account of transport costs to Licensees' generating sets through the parameter  $T$ .
  5. If diesel fuel costs become significant for EEPCo's ICS (e.g. to supply gas turbines during periods of drought) then EEPCo shall also submit an application for an automatic adjustment for fuel costs that covers both price and quantities consumed.

6. Licensees with automatic indexation of diesel fuel cost shall submit an annual reconciliation of actual revenues against allowed revenues as detailed in Art.16 of this procedure.
7. Responsibilities for designing automatic adjustment formulae shall be identical to responsibilities for price structure more generally and are described in Art. 7 of this procedure.

## **CHAPTER EIGHT**

### **Miscellaneous Provisions**

#### **Art. 29 Accounting Standards**

Licensees shall follow the Uniform System of Accounts issued by the Agency.

#### **Art. 30 Reporting Requirements**

1. All Large Isolated System Licensees shall submit their accounts and Price Submissions that have been audited by a qualified, Independent Auditor.
2. Large Licensees shall allow full access by the auditor to all relevant accounting data.
3. The Independent Auditor shall certify that he has reviewed the cost and revenue data and the calculations contained in the annual submission to the Agency and confirms that, to the best of his knowledge, they are correct.
4. Licensees shall use the same auditor to certify both their submissions to the Agency and their reports to shareholders relating to their annual accounts.
5. Large Licensees shall maintain a financial data including records and accounts, adequate to reflect the operations, resources and expenditures related to its Licensed Activities.
6. All Licensees other than Large Licensees shall self-certify their submissions to the Agency. From time-to time, the Agency shall inspect and review, or appoint an independent auditor to inspect and review, a random selection of submissions and any submission that cause the Agency concerned.
7. The costs to be incurred in association with the Independent Auditor shall be covered by the respective Licensee.
8. All Licensees shall retain for at least 10 years, all records (contracts, orders, invoices, bills, receipts, etc) evidencing their expenditure.

#### **Art. 31 Public Information**

1. Key documents and exchanges between a Licensee and the Agency shall be made available by the Agency and the Licensee to the Licensee's customers and consumer groups in the Licensee's geographical area, upon request.

2. Copies of price submissions shall be made available for view by customer at manned premises of the Licensee at locations, such as power stations or district offices, which are accessible to consumers within the distribution area.
3. The Agency shall comply with its public consultation procedures in allowing customers and consumer groups to challenge information in the Price submissions.

### **Art. 32 Effective Date**

This Procedure shall enter into force as of the date signed by the General Manager of EEA.

Done at Addis Ababa, this 7<sup>th</sup> day of April, 2005