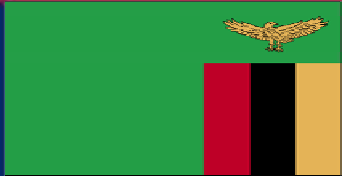




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National Association of Regulatory Utility Commissioners



ERB/NARUC REGULATORY PARTNERSHIP

RATE BASE REGULATION AND DEPRECIATION STUDIES

ERB/PUC 3rd Activity, 22/03/06 - Lusaka

Introduction

- Depreciation studies are an integral part of the tariff (rate) setting process.
- In order to determine a utility's revenue requirement or cost of service, the regulator has to ascertain;
 - A reasonable level of expenses, including **depreciation**; and
 - A return on investment – typically a percentage of the rate base (net of **depreciation**)

Introduction

- The ERB uses the revenue requirement methodology of tariff determination. This is summarised by the following equation;

$$RR = E + RoR (RB)$$

Where;

- RR = Revenue Requirements
- E = Approved Expenses
- RoR = Rate of Return
- RB = Rate Base

Rate Base Determination

- The rate base includes costs of plant and equipment that are used in the provision of the service.
- Several adjustments are typically made to avoid excessive claims on the rate base as these have direct tariff implications through the resultant rate of return claimed.

Rate Base Determination

- Some of the common adjustments in rate base determination include;
- Concept of 'used and useful' :
 - ☐ Only assets that are actively in use are to be included in the rate base
 - ☐ Includes adjustments for excess capacity, prudence in usage etc.
- Valuation of the assets; including depreciation policies

Rate Base Determination in ERB

- In its application of the RR methodology of tariff setting, the ERB has in the past not utilised the rate base as a basis for determining the rate of return.
- The main challenge in determining the rate base hails from the lack of sufficient data from the utility.
- Valuation of assets and depreciation accounting by the utility (ZESCO) have often not been clear. E.g. the utility has not provided an asset register or an analysis of its depreciation figures to support its claims in the past tariff applications.

Rate Base Determination in ERB

- ERB's regulatory accounts were not comprehensive enough and lacked clarity on aspects of asset valuations and depreciation policies.
- The new Tariff Filing Guidelines now provide for more comprehensive reporting by utilities on their asset valuation and depreciation accounting policies.
- The next two slides provide an extract of 'Schedule E' of the new TFGs which focuses on valuation for rate base determination.

Extract of Schedule E of new TFGs: Valuation

- (Utility assets will be included in the tariff only if prudently constructed and necessary, “used and useful”, to the provision of service).
- (1) A summary, by detailed plant accounts (by SBU using the format approved by the ERB), of the book value of the fixed assets of the utility at the date of the balance sheet as required by paragraph 1 of schedule C.
- (2) Clearly describe the depreciation methods used in calculating annual depreciation and depreciation reserves, together with all factors that were considered in arriving at estimates of service life, including cost/value escalation indices.

Schedule E continued...

- (3) Supply a comprehensive statement of any changes made in method of depreciation and in the selection of average service lives.
- (4) Provide a table, (depreciation schedule) showing the cumulative depreciated original cost by year of installation for utility plant in service at the end of the test year (depreciable plant only) as claimed in the measures of value, in the following form:
 - Year installed
 - Original cost – the total surviving cost associated with each installation year from all plant accounts
 - Calculated depreciation reserve – associated with each installation year from all plants

Rate Base Determination in ERB

- ZESCO's newly launched business information system is promising to provide more comprehensive and credible reporting; including asset and depreciation accounting.
- The cost of service study will also provide a good initial estimate of ZESCO's rate base.
- The ERB and IPA consultants are also carrying out benchmarking studies to establish an appropriate rate of return for ZESCO.

OUTLOOK

- With the enhanced regulatory accounting framework (TFGS), completion of the cost of service study, and the commencement of regulatory audits, the ERB is this year poised to embark on a fully fledged rate base determination and its application in the rate/tariff setting process.

OUTLOOK

- The current prospects for improved rate base determination further set the stage for the ERB to graduate to the full application of the Revenue Requirement (or Rate of Return) method of tariff determination and its more improved incentive based variants such as price caps.

Acknowledgements

- The ERB would like to acknowledge the generous support of PUC staff through the NARUC/ERB partnership, in the development of the ERB's new Tariff Filing Guidelines.
- Stakeholder consultation is almost complete and the TFGs are due to be presented for Board approval in or about April, 2006.