Principle of Estimation the Revenue Requirement for the Distribution Companies

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Introduction

1) Tariff Methodology provides principles for determining the revenue requirements for each Distribution Licensee .

2) ERC uses an approach to price regulation referred to as “Rate of Return” on Investment regulation as the basis for setting tariffs for the Distribution Licensees.

3) Distribution Licensees should be able to recover all reasonable costs of providing services to customers .

4) Distribution Licensees should not be financially responsible for factors beyond their control. Tariffs, therefore, will be adjusted between Tariff Review Period for factors beyond the control of the Distribution Licensees.

5) Tariffs will be set for a specified period of time .

The Distribution Licenses

The Jordanian Electric Power Company. (JEPCO)

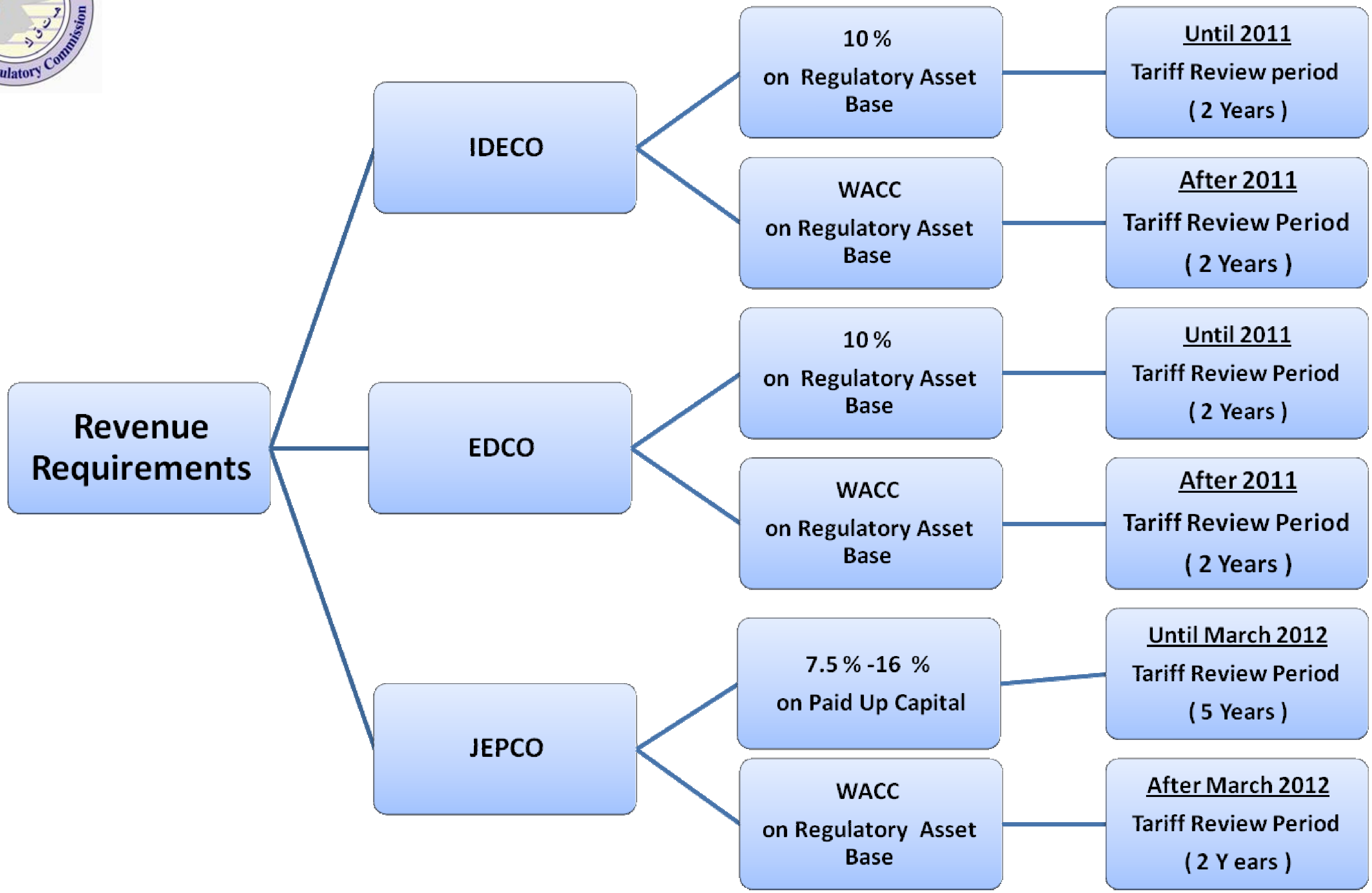
- Established on 1938 According to the concession agreement .
- Methodology of the revenue requirement mentioned in the concession agreement will be applicable Until March 2012 .
- After March 2012 , Revenues requirement will calculate according to the Tariff methodology .

Electricity Distribution Company (EDCO)

- Established on 1999 .
- Revenues requirement will calculate according to the Tariff methodology .

Irbid District Electricity Company. (IDECO)

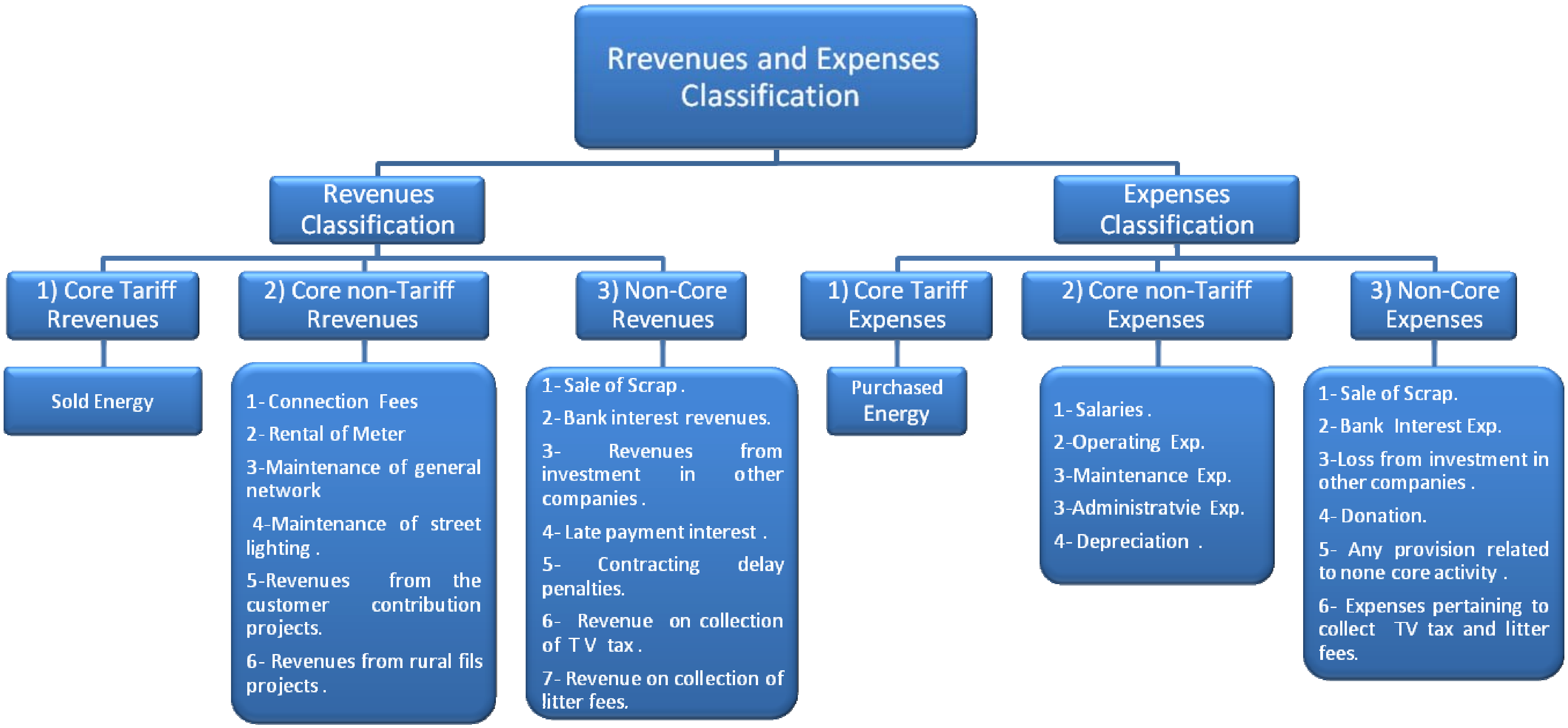
- Established on 1957 .
- Revenues requirement will calculate according to the Tariff methodology .


Revenue Requirements
IDECO
10 % on Regulatory Asset Base
Until 2011 Tariff Review period (2 Years)
WACC on Regulatory Asset Base
After 2011 Tariff Review Period (2 Years)
EDCO
10 % on Regulatory Asset Base
Until 2011 Tariff Review Period (2 Years)
WACC on Regulatory Asset Base
After 2011 Tariff Review Period (2 Years)
JEPCO
7.5 % -16 % on Paid Up Capital
Until March 2012 Tariff Review Period (5 Years)
WACC on Regulatory Asset Base
After March 2012 Tariff Review Period (2 Y ears)

First : Revenue Requirements (EDCO & IDECO)

1) Classification of the Revenues and Expenses

ERC classified revenues and expenses into three categories:-



2) <u>Approval of Investment Programs</u>

The ERC will determine the approved level of investments for Core Activities for each Distribution Licensee for the duration of the Tariff Review Period. To be approved by the ERC, investments must meet the following criteria:-

1) Investments are needed to replace worn out, existing equipment.
2) Investments are needed to meet forecast demand growth .
3) Investments are needed to improve or maintain the quality of service, and to meet performance standards.

3) Calculating the value of the average RAB

RAB Beginning = Net Book Value of the Fixed Assets Funded by the Company

RAB Ending =
RAB Beginning
+ 50 % from the approved capital expenditure
+ Balance of Work in progress in the previous period (Funded by the Company).
- The annual depreciation
- Disposal of the fixed assets

$$\text{Average RAB} = \frac{(\text{RAB Beginning} + \text{RAB Ending})}{2}$$

- **RAB (Period)** :- For each year of the Tariff Review Period, the ERC will calculate the Annual Revenue Requirements for each Distribution company .

4) Rate of Return

Until to 2011 :-

- The Rate of Return before tax that will be used for EDCO & IDECO will be the following :-

Distribution Licensee	*Annual Rate of Return*
EDCO	**10% on Regulatory Asset Base**
IDECO	**10% on Regulatory Asset Base**

Rate of Return After 2011 :-

- After 2011 , the allowed Rate of Return will be set equal to the estimated weighted average cost of capital (WACC) for the Core Activities of the Distribution Licensee.
- The WACC is the average of the approved cost of debt and equity for the Distribution Licensees, weighted according to the share of each of these financing sources in the approved capital structure.

- The Rate of Return will be estimated on a real, pre-tax basis as follows:

- **(WACC) = (%age Equity) x R_E /(1-tax rate) + (%age Debt) x R_D**

Where:

- RE = Cost of Equity
- RD = Cost of Debt % age
- % age Equity = % of equity in overall capital structure
- % age Debt = % of debt in overall capital structure
- The ERC will undertake a consultation with the Distribution Licensees with regard to the appropriate capital structure to be used in the calculation of the rate of return as part of the tariff review process. The estimates of the percentage of Debt and Equity in the optimal capital structure will be determined as part of the tariff review.

- <u>The Cost of Equity will be calculated using the Capital Asset Pricing Model as follows</u>:-

RE = RF+ ße [RM - RF]

Where:

RE = Cost of Equity

RF = Risk free rate of Return.

RM = Return on the market portfolio of shares post-investor tax.

ße= Equity beta, reflecting the perceived riskiness of investing in distribution utilities, compared to the overall market.

- <u>The Cost of Debt will be calculated as follows</u>:

RD = RF + Debt Premium.

Where
RD = Cost of Debt
RF = Risk free rate of return

5) Calculating *Revenue Requirements for the Tariff Period*

- This Revenue Requirement will include the costs approved by the ERC for the Distribution Licensee to provide the Core Activities defined in the License and a return on invested capital used in the Core Activities, as in the following formula:

$RevR_t$ = The approved cost + ($RABt \times RoR_t$) − The financial penalties + The shortfall (excess)

Where:

$RevR_t$	C_t	RABt	RoR_t	The financial penalties	The shortfall (excess)
Annual Revenue Requirement for the Core services that the Distribution Licensee must provide under its License	Cost of Bulk Supply Operational Cost Depreciation	The Regulatory Asset Base for the Core Services for the year (Funded by the Company)	The permitted rate of return on the Regulatory Asset Base before tax	The financial penalties of the distribution licensee for failing to meet performance standards.	The shortfall (or excess) of prior year's actual revenue against the prior year's revenue requirement. This variance from prior year revenues will only apply to four components

Adjustment of Tariffs Between Tariff Review Periods

ERC may update tariffs within the Tariff Review Period to compensate for the following factors:-

1) Tariffs need to be updated due to errors in the previous year's data used to calculate tariffs
2) Tariffs need to be updated due to changes in the assumptions used for calculating tariffs.

The ERC has identified a number of factors that would lead to changes in tariffs between Periodic Reviews, including:

1) Variations Bulk Supply Tariffs: Any change in the Bulk Supply Tariffs charged by NEPCO to the Distribution Licensees will lead to a change in the Distribution Tariffs. Changes in the Bulk Supply Tariff will lead to immediate changes in the Distribution Tariffs.
2) Variations between Forecast and Actual demand levels .
3) Variations between Forecast and Actual Inflation levels .
4) Variations between Forecast and Actual exchange rates .

For the latter three categories , If the combined impact of variations in these three factors is greater than 2% of the Revenue Requirement of the Distribution Licensees, the ERC will update the Distribution Tariffs. If the combined impact is less than 2%, the ERC will wait until the next Tariff Review Period to adjust tariffs, to take into account these variations

Second : JEPCO Revenue Requirements

1) The Revenue Requirement till March 2012.

- Prior to the end of JEPCO's existing concession agreement on March 2012, the Revenue Requirement for JEPCO will be calculated as follows:
- $RevR_t = C_t + (NETCAP_t \times RoR_t) + SF_{t-1}$
- Where:
- $RevR_t$ = Annual Revenue Requirement for the services that the Distribution Licensee must provide under its License
- C_t = the annual operating and maintenance costs for the Core services plus the cost of Bulk Supply purchases from NEPCO as Bulk Supply Licensee and Transmission Licensee
- $NETCAP_t$ = the Net Paid up Capital of JEPCO for the year
- RoR_t = the permitted rate of return on the Net Paid Up Capital of JEPCO
- SF_{t-1}= the shortfall (or excess) of prior year's actual revenue against the prior year's revenue requirement.

1) <u>The Revenue Requirement after March 2012.</u>

- From March 2012 onwards, the Revenue Requirement for JEPCO will be calculated according to the same methodology (Tariff methodology) that will be used in calculating the revenue requirement for EDCO and IDECO .

Thank you.....