



INFORMATION ON REGIONAL ELECTRICITY DISTRIBUTORS (REDs)

2. Pricing of Electricity in Namibia

Article 4 of 6, compiled by the Electricity Control Board (ECB) to clear misconceptions about REDs & related electricity matters.



INTRODUCTION

The Electricity Control Board (ECB) of Namibia is, in terms of the Electricity Act (2000), tasked with regulating and controlling the electricity supply industry (ESI), in accordance with prevailing government policy. A cornerstone of Government's energy sector policy relates to electricity pricing reform. The stated objectives are that electricity tariffs in Namibia should:

- be based on sound economic principles;
- be cost reflective as far as possible;
- reflect long-run marginal cost of supply; and
- give all current ESI participants and potential participants a level playing field.

To support the creation of an electricity market in Namibia, in line with Cabinet's November 2000 decisions on ESI reform and the Energy White Paper, the ECB commissioned a 'National Electricity Tariff Study' for Namibia in March 2001. The overall objective of the study was to 'develop a transparent & cost-reflective electricity tariff methodology' for Namibia based on technically sound principles. One of the main conclusions of the Tariff Study was that electricity tariffs in Namibia were not cost reflective. Further studies showed that tariffs were either above cost reflectivity or below cost reflectivity with the majority being below cost reflectivity.

Cost reflectivity means that the utility is allowed to recover all its cost of supply (allowable cost) as determined by the regulator plus a rate of return which is also determined by the ECB. The rate of return is calculated according to a weighted average cost of capital (WACC) methodology.

DISTRIBUTION TARIFFS

Exhaustive stakeholder consultation led to a consensus agreement of the need to achieve cost reflectivity as an essential pre-condition for efficiency in the industry. The ECB regulates distributors' tariffs for a variety of reasons, namely

- to control distributors' allowable income;
- to improve price signals to consumers;
- to promote uniform standards in pricing across the industry; and
- to introduce efficiency and economic sustainability.

Electricity distributors in Namibia are regulated based on its revenue requirement, including a return on assets. The revenue requirement is set on an annual basis by the ECB and ultimately determines the overall level of tariffs. The key principle underlying this approach is that the level of tariffs should generate revenue equal to the costs of the business plus an appropriate return.

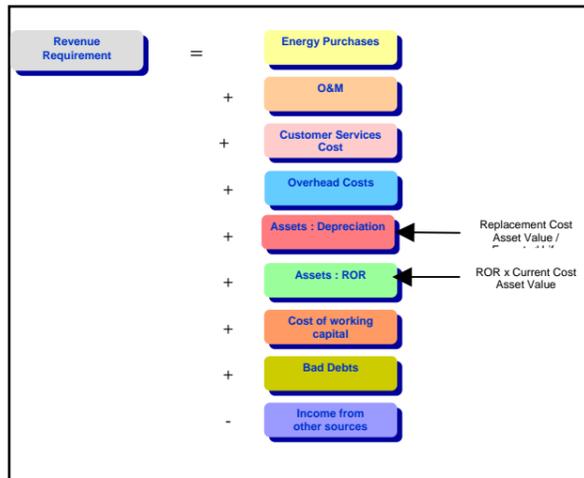
To determine the revenue requirements of a distributor, the cost structure of the distributor must first be determined. Electricity distribution costs include:

- Bulk electricity purchases from NamPower;
 - Distribution costs, generally including network asset and capital related costs;
 - Operation and maintenance costs associated with distribution;
 - Distribution losses (currently capped to 5%);
 - Administrative overheads attributed to distribution; and
- Customer services, including billing, meter reading, and other customer services

Determining tariff structures

There are three steps in the method for determining tariff structures.

- Firstly, the revenue requirement (i.e. costs) must be allocated to customer categories;



- Secondly, the costs thus allocated must be converted into tariffs; and
- Thirdly, any required cross-subsidies must be factored into the tariffs.

TRANSMISSION TARIFFS

Transmission will remain a monopoly function of the industry. It was decided on the use of a Rate of Return regulation methodology to determine transmission's revenue requirement. This is the same methodology that is used to determine distribution tariffs. The costs included are:

- Operation and maintenance costs associated with transmission;
- Transmission losses;
- Overheads attributed to transmission;
- Depreciation; and a
- Return component.

The same steps that are used to determine distribution tariffs are also used here. The most important issue that relates to transmission tariffs is that tariff charges are to be set to follow the costs of providing the various services as close as possible.

As from 1 July 2007 Time-of-Use (TOU) tariffs will be implemented in Namibia. The main reasons for this are as follows:

- The environment specifically relating to the need to shift load due to shortage of capacity in the region;
- The TOU prices from Eskom; and
- The requirement for cost reflective pricing signals.

As from 1 July 2007 only the mining industry will be charged according to TOU tariffs but from 1 July 2008 all transmission customers will be charged accordingly.

GENERATION TARIFFS

Electricity regulators around the world face the challenge of balancing the interest of various stakeholders when they determine price levels for their respective monopoly industries. Generally, customers' harbour expectations of low prices while investors seek a high return on their investments.

The introduction of competition in the generation sector holds the promise that the regulator will be relieved from regulating generators' prices. Rather, it is hoped that an efficient competitive market will determine prices through market principles reflecting supply and demand balances. However, effective competition in the Namibian generation sector still has a long way to go due to the small size of the Namibian market and NamPower being the only current player in the generation sector. Therefore it was decided that tariffs in generation would be based on an import parity methodology that benchmarks local generation prices against the firm energy/capacity prices as determined in the ESKOM contract (this was chosen as the import parity reference because of Namibia's high dependence on electricity imports from South

Africa). Only in emergency situations are the Namibian generators paid the full generation cost.

THE PRESENT AND THE FUTURE

It is foreseen that electricity prices will increase over the next 5 years. The first reason being the fact that electricity tariffs are currently not cost reflective. As of 1 July 2003 the ECB has started with the implementation of cost reflective tariffs for generation, transmission and distribution. Insofar as electricity tariffs are currently not cost reflective, the leap to cost reflective tariffs cannot be done at once and will be implemented over a number of years.

NamPower has been in a position to negotiate a very favourable contract (import of electricity) with ESKOM in South Africa over the years, which was possible due to abundant reserves that SA had. Unfortunately this contract expired in 2006, at a time when the whole SADC region experience shortage of electricity supply. Therefore, NamPower was not able to re-negotiate such a favourable contract as it was expected that South Africa would run out of excess generation within the next year or so. This has caused huge increases in the price of imported electricity.

In order to ensure that Namibia can in the long run meet the demand for electricity there is a need for investment in new generation capacity over the next few years. Currently electricity prices are too low to encourage investment in new generation because investors will not invest if they are not able to recoup their investment cost and earn a return on their investment. Furthermore, when new generation comes on stream it may mean a large increase in electricity prices in order to allow the new generator to cover its costs and earn a return.

For these reasons the ECB, for the past 4 years, allowed both NamPower and the distribution utilities substantial real increases. This is to ensure that there will not be a price shock once new generation and expanded transmission is introduced in the system.



Note: Read price bars of the left-hand scale. Read real price increases from the right-hand scale.

- Indicates Actual real price¹
- Indicates proposed real price
- Indicates projected real price

From the graph it can be seen that bulk (generation and transmission prices combined) electricity tariffs are expected to increase even more until 2010/2011 after which it is expected to stabilize. This is due to the fact that Cabinet has taken a decision in 2005 that bulk electricity tariffs should be cost reflective by 2010/2011. It is therefore not the REDs which are making electricity more expensive, but supply shortages, higher costs of new generation and transmission projects and non-cost reflective distribution prices, combined with policy decisions.

Article 5 next week will give more details on the Local Authority Surcharges.

¹ Real price excludes the effect of inflation.