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Tariff Reviews & Assumptions

TARIFF SERIES 06

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1 INTRODUCTION

TARIFF REVIEWS & ASSUMPTIONS

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1 Introduction

Electricity tariffs play a pivotal role in shaping economies and societies, acting as a driving force behind sustainable growth and development. These tariffs, the prices consumers pay for electricity, are subject to periodic reviews to ensure they remain aligned with dynamic economic and social conditions. These reviews are essential not only for safeguarding the interests of both investors and consumers but also for maintaining the vitality of the electricity sector.

During these reviews, the regulator accounts for changes in key metrics or assumptions and costs to ensure that tariffs accurately reflect the cost of providing power. The assumptions applied during these tariff reviews are crucial in determining the final electricity rates that consumers pay. Consider a scenario where a country's electricity tariffs fail to keep pace with economic changes. Industries will face financial strain, unable to cover their operational costs, while consumers will grapple with unpredictable electricity bills.

This article delves into the intricate world of tariff reviews within the Nigerian Electricity Supply Industry (NESI), shedding light on the process of adjusting assumptions that underpin these crucial pricing mechanisms. By understanding the mechanics of these reviews and the implications of their outcomes, stakeholders can grasp how these adjustments contribute to the long-term stability and growth of the electricity market. In the following sections, we will explore the multifaceted aspects of tariff reviews, ranging from key assumptions to the procedural intricacies that shape the landscape of electricity pricing in Nigeria

2 TARIFF REVIEWS IN NIGERIA

TARIFF REVIEWS & ASSUMPTIONS

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2 Tariff Reviews in Nigeria

The Nigerian Electricity Regulatory Commission (NERC) sets tariffs through the Multi-Year Tariff Order (MYTO) in which it establishes a tariff structure using an incentive-based methodology that essentially seeks to reward performance above certain set benchmarks in order to improve service delivery. The methodology was discussed extensively here, it allows licensees to recover the cost of capital and operations and make a return on their investments.

The use of the MYTO model allows NERC to project electricity tariffs for a predetermined period of time (Currently 10 years), and to make these projections – micro and macro-economic indices assumptions are taken into consideration. Some of these assumptions are factors such as inflation and foreign exchange rate which influence the tariff costs and the price of electricity supply in Nigeria.

Under the powers bestowed on NERC as regulators in the electricity market, they released a 10-year MYTO tariff model in February 2016 called MYTO 2015. However, NERC conducts periodic reviews to ensure that assumptions used in the MYTO model are accurate and up-to-date, and based on these makes adjustments where necessary. This process aims to ensure that the electricity customer tariff remains cost-reflective of market conditions. Thus, the electricity tariff review is essentially a review of the provisions and assumptions of the MYTO model. Three (3) types of tariff reviews occur in the NESI:

- **Minor reviews**: These are to be done twice a year.
- **Major reviews:** These are to be done every 5 years.
- **Extraordinary Review:** This is done upon the special request of licensees under extenuating circumstances, where they can make requests to the regulator for changes/updates to certain assumptions, provided this is backed by evidence of its effect on their business. these changes are typically requested for operating and capital expenditures such that a review is needed to ensure the financial stability of the licensee.

To reflect current realities, NERC adjusts the customer tariff by modifying its key parameters i.e., the costs and assumptions. Some of these costs that have been covered here include the cost of electricity, operations and maintenance costs, and regulatory charges while the assumptions refer to industry-specific and economic indices and factors that are incorporated into the tariff to mitigate any potential losses.

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Below are the key tariff assumptions that may be adjusted during a tariff review (Minor, Major & Extraordinary reviews) in NESI:

- **Inflation rate in Nigeria and the United States –** As a good produced, supplied and consumed in Nigeria, the cost of power is impacted by inflation in Nigeria and the importation of equipment for the construction of power infrastructure exposes the sector to changes in the US inflation rate as well. By applying these inflation rates in the tariff investors are protected in the event of a rise in the inflation rate on the cost of doing business.

- **Gas Price –** The majority of the power plants in Nigeria are gas-powered, making gas a vital resource in power generation. Thus, the price of gas is set in the MYTO and reviewed bi-annually to ensure compliance with the market price and prevent gas suppliers from incurring losses. This gas price consists of the actual cost of gas and the cost of transporting gas from the supplier to the power plant.

- **Foreign exchange rate (Forex) of the Naira to the Dollar -** Currently, NESI licensees import most of the required generation, transmission, and distribution equipment such as meters, cables, transformers, and toolkits. Because these components are valued in dollars, the sector is exposed to foreign exchange risk making it necessary to account for any change in the dollar to the naira exchange rate to ensure that investors do not lose on their investments. The applicable rate in the electricity tariff is the official CBN rate.

- **Generation capacity –** This is an estimate of the projected generation that will be available based on power plant-tested capacities that are available. This estimate enables proper energy accounting and provides clarity on the capacity that is available for consumption within the period. Consider a power plant that experiences unexpected downtime, reducing its generation capacity. During a tariff review, recalculating the estimated available generation capacity ensures that customers are charged accurately based on the actual energy they receive, maintaining fairness and transparency.

- **Energy Generated & Delivered–** This is a projection of the amount of energy that will be generated and supplied to the Discos. In the MYTO, Discos are obligated to receive a certain percentage of the total energy that is available at any point in time. This is called a load allocation and it differs among the 11 Discos. The table below shows the load allocation for the 11 DisCos as provided in the MYTO:

Distribution Company	Load %
Abuja Electricity Distibuttion Company *AEDC*	13.0
Benin Electricity Distribution Company *BEDC*	9.0
Enugu Electricity Distribution Company EEDC	9.0
Eko Electricity Distribution Company *EKEDC*	11.0
Ibadan Electricity Distribution Company *IBEDC*	13.0
Ikeja Electric *IE*	15.0
Jos Electrticity Disttribution Company *JEDC*	5.5
Kaduna Electricity Distribution Company KAEDCO	8.0
Kano Electricity Distribution Company KEDCO	8.0
Port-Harcourt Electricity Distribution Company *PHEDC*	8.5
Yola Electricity Distribution Company Y*EDC*	3.5
Total	100

Determining the total amount of energy that will be generated allows for accurate accounting of the cost of energy and ultimately the generation tariff as there is a clear estimate of what should be delivered to each Disco within the period. However, since the emergence of the privatised electricity market in 2013, there have been inconsistencies in the application of the load allocation as some Discos have reportedly gotten more and in some cases less energy than the percentage allocated to them in the MYTO.

- **Capital expenditure (CAPEX) –** This consists of the projected capital costs that have been submitted by the licensees. It ensures that they earn a return on these investments and recoup their value. Some of these capital costs may include the cost distribution/ transmission network improvement costs such as the construction of new feeders, rehabilitation of existing feeders and procurement of transformers; loss reduction initiatives, customer service improvement strategies, information technology investments, network metering and other necessary tools and infrastructure.

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- **Operating and Maintenance costs (OPEX) –** This is an estimate of the fixed or variable expenses and costs that must be incurred for the efficient operation of the licensees' business/operations including administrative and infrastructure maintenance costs. This is usually submitted by the licensee and is subject to approval from NERC.

- **Weighted average cost of capital (WACC) –** This is a commonly used method for the calculation of the rate of return in regulated utility markets. As the name suggests, it reflects the weighted average of the cost of each component of the capital structure. This component is applied to the cost of capital to determine the return obtainable by investors in the electricity market. In NESI, the WACC has remained at 11% from privatisation to date.

- **Transmission Loss Factor (TLF) –** This accounts for technical losses that occur in the transmission sector of the value chain. Energy moves at a higher voltage in the transmission infrastructure before it is stepped down into the distribution lines. To manage any technical losses that occur while power flows through transmission lines, the regulator has set a cap on the amount of power that can be lost according to international best practise. Accounting for these losses before sales occur ensures that the licensee and the regulator can determine the amount of power that will be received by a Disco provided efficiency is achieved across the value chain via all parties meeting their loss target obligations. The TLF is currently set at 7.50%.

- **Aggregate technical commercial and collection losses (ATC&C) –** Every electrical system suffers from technical losses; while energy moves through the grid, some of it is lost through heat energy. However, commercial and collection losses are less common and sometimes avoidable. Commercial losses occur when energy is supplied but cannot be accounted for, such as when customers "bypass" their meters. Collection losses occur when energy is accounted for and customers are billed, but the licensee is unable to collect payment on the energy billed. All these losses are accounted for in the tariff by setting a value on the percentage of power that can be lost by any of the means above, and managing these losses is the responsibility of the Discos.

All review proceedings are governed by the NERC Regulations on Procedure for Electricity Tariff Reviews in the Nigerian Electricity Supply Industry. Its provisions on tariff review processes are discussed below.

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2.1. Minor MYTO Reviews

The MYTO minor review which should occur every 6 months is focused on amending the tariffs to reflect material changes in certain tariff assumptions. According to the Regulations on the Procedure for Electricity Tariff Reviews in the NESI, the minor review indices/assumptions include:

- The wholesale cost of fuel for the generation
- Nigerian inflation rate
- US inflation rate
- Foreign exchange rate of the dollar
- Average energy generated for the preceding 6 months.
- CAPEX and OPEX cost

The regulation states that these assumptions may only be reviewed following a material variation in the value used to calculate the tariff. In the 2015 MYTO, which is set to expire in 2025, NERC determined that a material change would be a difference of plus or minus 5%.

The key objectives of the minor review are:

- To reflect changes in variables so that determined tariffs are cost-reflective,
- To ensure that the quality of power concurs with the applicable tariff,
- To ensure that the tariff is fair to customers while allowing licensees to recover their reasonable operating and capital expenses.

The assumptions considered in the latest MYTO which was released in December 2022 are:

Assumption	Current Value
Nigerian Inflation	**18.6%**
US Inflation	**8.29%**
Gas Price	**$2.18/MMBTU (exclusive of $0.80/MMBTU cost of transportation)**
Forex rate N/$	**N441.48**
Available generation capacity	**4,489MWh**
CAPEX	**Varies among the 11 Distribution Companies**

2 Tariff Reviews in Nigeria

After every tariff review, a revised and updated MYTO model and Order is released for each Disco individually which outlines their obligations to the market and their end-user tariffs. While some assumptions are uniform across the Discos such as the transmission loss factor, inflation and the foreign exchange rate, some – such as CAPEX costs - are specific to each Disco individually.

The minor review MYTO also outlines the approved end-user tariff for the 6 months following the review.

2.1.1. Procedure for Minor MYTO Reviews

- Within 3 months before the end of the 6-month minor review period, NERC will issue a notice of its intention to begin the minor review process.
- The public is invited to submit any comments to NERC within 3 weeks from the publication of the notice,
- NERC reviews the comments and requests the necessary information needed for adjustments from the relevant entities such as the Transmission Company of Nigeria (TCN), the National Bureau of Statistics (NBS) and the Central Bank of Nigeria (CBN).
- A public stakeholder consultation is convened within 2 months from the date of the publication subject to the approval of NERC.
- All comments from the consultation will then be collated, the tariff will be adjusted, and the Amended Tariff Order will be submitted to NERC for approval within seven days after the stakeholder consultation,
- The amended tariff order will be approved by NERC within 10 days from the date it is submitted and published in the official gazette, two national newspapers and NERC's official website. All licensees will also receive their copies.

2.2. Major MYTO Reviews

The major MYTO review process is more in-depth than a minor review. In the 2012 MYTO, it was described as "a comprehensive review and overhaul of the assumptions in the MYTO model". This means that every tariff assumption is adjusted to account for any changes or deviations that may have occurred.

The major review may occur before the end of the 5-year period provided participants can show that the industry parameters have significantly changed such that an urgent review is required to maintain the sustainability and efficiency of the entire sector.

2.2.1. Procedure for Major Reviews

- Every major review begins with NERC issuing a notice to all licensees in the market informing them of its intention to carry out a major review of the existing tariff. This notice must be sent a year before the termination of the existing MYTO and will mandate the licensees to submit applications for a tariff review within 180 days following the issuance of the notice.
- Within 5 days of receipt of their applications, NERC will send acknowledgment letters to each licensee, and review said applications within 4 months, beginning from the day the notice was issued.
- The conclusions of the review are then published in a Consultation Paper on NERC's website and the public will be able to provide comments on the consultation paper for 21 days following its publication.
- Stakeholders are subsequently invited to a presentation, or a public hearing is held within 2 months. Following this, all comments and observations from the public hearing will be collated, relevant amendments will be made and then the Draft Tariff Order will be prepared and considered by NERC.
- Stakeholders in the DisCos are subsequently invited by NERC for consultations on the Draft Tariff Order. Following this, NERC will issue a Notice of Proposed Rulemaking in the Official Gazette and at least 2 national newspapers informing the public of the draft Tariff Order which will be available on its website inviting them to forward any comments they may have within 14 days and the date for a consultation on the order.
- Finally, NERC will collate and incorporate all relevant feedback received from stakeholders and approve the final tariff order within 30 days from the date of the final stakeholder's consultation. The new tariff order will be published and sent to all licensees.

2.3. Extraordinary MYTO Reviews

Extraordinary tariff reviews are the only reviews initiated by the licensees. Notably, they are only allowed to access this right to a review in specific circumstances such as:

- Where industry parameters have evolved significantly making an urgent review necessary.
- Where a licensee's proposed additional investments are not accounted for in the existing tariff.
- Where a licensee has encountered unexpected operational, legal or regulatory costs that are significant but reasonable enough to be passed on to consumers.

The extraordinary review process is the most complex process. Most notably, it requires the establishment of a hearing panel that reviews the application and accepts commentaries for and against the review.

2.3.1. Procedure for Extraordinary MYTO Reviews

The formalities for an application for review can be found in the Regulations for Electricity Tariff Reviews in the Nigerian Electricity Supply Industry. Each application must be accompanied by the relevant supporting documentation and a filing fee of N5 million, or any other amount prescribed by NERC which is refundable provided the tariff review is approved.

The steps for an extraordinary review are:

- The applicant applies using the prescribed form supported by a report summary. Before this, the applicant must have implemented the previous MYTO for at least 3 years before requesting a review, unless the application is being made due to unforeseen circumstances. The regulation does not define what these circumstances would be.
- All proposals made will be inputted into NERC's MYTO financial model to determine the wholesale tariff for generation or the effect of the proposed changes to the revenue requirement and retail tariffs of the relevant DisCo.
- Each application must be accompanied by relevant supporting documentation such as evidence to show that the required change will allow the DisCo to recover all reasonable costs. The supporting documents assist NERC in deciding on the application.

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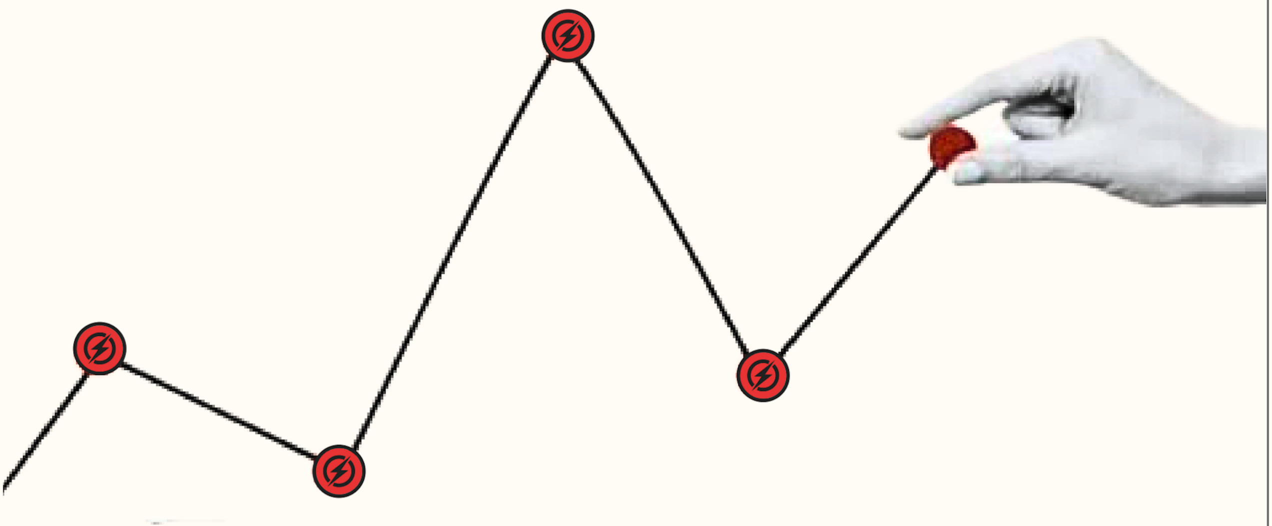

- A filing fee of 5 million naira or any other amount prescribed by NERC is also required. The filing fee is refundable provided the tariff review is approved.
- The proposal made in the application will be inputted in the MYTO to assess the probable effect of the proposed changes on the tariff.
- Upon receipt of an application, the Commission reviews the documents to ensure that the applicant has complied with all requirements. If the application is incomplete, the applicant is informed within 5 days of receipt and directed to submit the outstanding documents within 10 working days. However, where the application is complete, NERC acknowledges receipt within 5 days.
- The application reviews must be done within 4 months from the date the notice was issued and a consultation paper on NERC's findings from the reviews will also be presented to stakeholders 2 months after the review.
- The consultation paper will explain the need for a new order which will include the objectives, goals, and content.
- The consultation paper is published on NERC's website along with a request for comments from the public for 21 days.
- Within 7 days of the publication on NERC's website, a Notice of the Application is published on NERC's website, in 2 newspapers that are in circulation within the licensee's region of the market and a national newspaper inviting comments, objections and representations from the public on the application.
- All comments must be submitted within 21 days from the date of publication and reviewed by NERC.

- All comments and observations received are subsequently collated and relevant amendments made before the commencement of proceedings.
- The review process takes the form of a hearing, and any person is invited to participate provided they make a successful request to participate within 21 days from the date the Notice is published.
- Each request to participate, once approved, is sent to the applicant licensee and other approved interveners. All interveners are named on NERC’s website within 7 days from the date their request is approved.
- Applicants are allowed to appoint representatives to stand on their behalf during the hearing provided they serve NERC with a notice of representation at least 7 days before the date of the hearing.
- The hearing panel is made up of three NERC Commissioners one of whom shall be appointed by NERC to serve as the chairman of the panel.
- The applicant/licensee is allowed to provide oral and documentary evidence as well as expert witness testimonies and oral evidence which shall form the basis of any decision the panel may make.
- A simple majority is required for a successful application and unlike the formal judicial system, proceedings are not guided by the Evidence Act. Notably, the burden of proof rests on the applicant throughout the proceedings. This means that the applicant must show “that the proposed tariff is just and reasonable and based on prudent cost”.
- Once the time for submitting comments elapses, the panel has 60 days to conduct the hearing of the licensee’s application.
- Subsequently, the panel will give its ruling which will be in the form of an order from NERC which will contain the reason for their decision. This order must be released on or before 30 days after the hearing date and must be signed by the members of the panel.
- Any party that is unsatisfied with the panel’s decision may exercise the right to a review of the decision which will be done by the same panel.

3 CONCLUSION

TARIFF REVIEWS & ASSUMPTIONS

3 Conclusion

In the realm of electricity supply, the significance of accurate tariff reviews transcends the boundaries of economics and ventures into the realm of societal well-being. As we've journeyed through the intricate process of tariff adjustments within the Nigerian Electricity Supply Industry (NESI), we've come to recognize that these reviews aren't merely administrative tasks; they are the bedrock upon which an electricity sector is built.

By meticulously scrutinizing assumptions and adapting to changing market dynamics, tariff reviews protect the interests of investors and consumers alike. They ensure that businesses can recoup their investments, continue to innovate, and deliver reliable services. Simultaneously, these reviews prevent consumers from bearing undue burdens while reaping the benefits of a robust electricity sector.

To illustrate, imagine you own a physical business that operates in a sector where the regulatory authority sets the cost of goods, and then rent prices increase, but the regulator fails to acknowledge this, insisting instead that you continue to charge the same price while your expenses rise. To comply with the set price, you may be compelled to reduce the services you offer; close early to save on electricity consumption, or even reduce your workforce; resulting in a decline in service quality and overall customer satisfaction.

As the NESI navigates its journey towards sustainability and growth, the commitment to accurate tariff reviews remains unwavering. The resilience of these processes safeguards against imbalances, fostering an environment where both financial viability and consumer satisfaction coexist harmoniously. The electricity industry is especially vulnerable to poor quality of service, which can manifest as substandard or unreliable electricity supply. When this occurs, a country's overall quality of life and economic stability is adversely affected. Therefore, the tariff review process benefits all stakeholders, including investors, licensees, and customers, by protecting their interests.

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