



# National Telecommunications Commission NATCOM



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## **TERMS OF REFERENCE FOR THE DEVELOPMENT OF COST MODELS AND PRICING FRAMEWORK FOR WHOLESALE AND RETAIL TELECOMMUNICATIONS SERVICES AND PRODUCTS IN SIERRA LEONE**

**Employer:** National Telecommunications Commission (NATCOM)

**Name of Assignment:** Development of cost models and pricing framework for wholesale and retail telecommunications services and products in Sierra Leone

**Procurement Number:** NATCOM/ DRA/EOI/CMP/2021 /001

**Country:** Sierra Leone

**Language:** English

**Date of Issue:** 15<sup>th</sup> April 2021

### **1. Background**

The National Telecommunications Commission (NATCOM) was established from the enactment of the Telecommunications Act 2006 (as amended), to license and regulate telecommunications operators and promote universal access to basic telecommunications services. Its mandate also includes the promotion of fair competition among operators for the benefit of end-users of telecommunications services and products.

One of the key tenets of open and fair competition in the telecommunications sector is an effective interconnection regime, avoidance of predatory pricing, price squeeze, excessive pricing practices and price dumping, among others. NATCOM has the legal responsibility to intervene when operators fail to reach an agreement or when such agreements do not promote fair competition or serve the best interest

of consumers. The general guiding principle for Regulators in mitigating ineffective competition for telecommunications services is to ensure that prices in the market are cost-oriented.

Since the establishment of NATCOM in 2006, no study has been conducted to set tariffs for interconnection and other telecommunications services. Typically, the prescription of tariffs for telecommunications services and products has not been scientific in nature; rather this is achieved through negotiations, which are normally based on subjectivity. Furthermore, after the liberalization of the International Gateway, the restrictions on the monopolistic power of the incumbent eroded but this ushered in an essential facility following the landing of the only Submarine fiber optic cable in February 2012, creating a monopoly in providing connection to international destinations.

Therefore, NATCOM is seeking to hire a consulting firm to carry out a study to set out a proposal for interconnection rates for both mobile and fixed line services and products, as well as formulate a pricing mechanism for other telecommunications services and products including mobile and broadband Internet services, SMS and mobile money transactions, for a period of five (5) years (2020-2025). The study should also focus on capacity tariffs levied by the sole wholesale provider of international bandwidth for voice and broadband services and products to ensure that the rates are efficiently priced.

The study should take into account the provisions of the applicable laws, which details the categories of operators entitled to get licenses and consider new business models and services including Mobile Virtual Network Operators (MVNOs), extended networks, international roaming, active infrastructure sharing, and wholesale services.

## **2. Objectives of the Assignment**

The overall objective of the assignment shall be to develop proposals for future glide path tariff regimes to enhance competition among telecommunications operators in Sierra Leone, based on a costing model for telecommunications services and products and benchmarking study of different tariffs among similar economies and countries in Africa.

The specific objectives of the assignment include but not limited to:

- i. analyze the existing market for telecommunications services and the pricing structure of all services and products in Sierra Leone, and recommend an appropriate and applicable pricing methodology;
- ii. develop an Optimal Cost of Capital Methodology Framework for the telecommunications industry in Sierra Leone;
- iii. develop costing principles that could be applied to set the tariffs and other charges including price caps, price floors, tariff guidelines and other price controls for different classes and categories of services and products;
- iv. develop a cost model and pricing framework for NATCOM for the various regulated services;
- v. conduct a benchmarking study of interconnect and other tariff regimes elsewhere in Africa, particularly in the ECOWAS sub-region, and other countries comparable to Sierra Leone;
- vi. Develop cost model for Mobile Money Transactions: On-net and Off-net;
- vii. Develop costing principles that could apply to the use of Data;
- viii. consistent with the findings from the market analysis and the benchmarking study, develop a costing model for NATCOM and make proposals for Mobile Termination Rate (MTR) and other tariffs (glide path) for five (5) years for mobile and fixed line services, mobile and broadband Internet services as well as SMS and mobile money transactions; and
- ix. train and transfer skills to NATCOM staff on the cost modelling and pricing frameworks.

### **3. Scope of the Assignment**

In the pursuit of accomplishing the assignment, the Consultant is expected to be available to participate in discussions or presentations on the assignment with the Commission and other stakeholders when necessary. The Consultant shall visit Sierra Leone at least twice during the duration of the assignment.

The scope of the assignment, in line with the overall and specific objectives, will cover in details, among other things, the following:

- i. review the existing market conditions of telecommunications services in Sierra Leone, particularly those that are relevant for the assignment;
- ii. assess and calculate the Weighted Average Cost of Capital (WACC) for the telecommunications sector. The WACC is considered as one of the determining parameters used for calculating charges that permit a reasonable rate of return to investors;

- iii. employ a methodology to evaluate tariffs and produce feedback on the estimation of the WACC for the telecommunications sector;
- iv. carry out a detailed literature review on different costing interconnection models and their methodologies, and recommend a suitable model for Sierra Leone;
- v. develop cost models appropriate for Sierra Leone including at least the following parameters:
  - calculation of network capacity requirements
  - network design parameters
  - network dimension scheme and coverage
  - direct licenses and regulatory fees
  - depreciation period of equipment
  - network cost estimates including historic capital costs, current capital and operating costs, operations and maintenance costs, depreciation costs, etc.
  - non-network cost estimate including research and development, future planning and development
  - cost break down for individual services as defined in the methodology document
- vi. the cost models that will be developed should be user friendly to allow for sensitivity analysis so that NATCOM can examine the impact of changes within a reasonable range for the under-mentioned parameters:
  - demand forecasts
  - market share assumptions
  - equipment prices
  - network quality of service
  - WACC values
  - useful asset lives
  - update and extension of the model
- vii. conduct a benchmarking study of average and best practice interconnect and other chargeable tariffs elsewhere in Africa, with special focus on the ECOWAS countries and other similar economies, while taking note of other regulatory rulings concerning glide paths;

- viii. evaluate current tariffs for wholesale services charged by the sole fiber optic cable essential facility (submarine and terrestrial fiber optic cables) to other market players;
- ix. evaluate the linkages between wholesale interconnect tariffs and retail prices, and assess the extent to which past interconnect tariff reductions have been passed on to consumers;
- x. use the cost model and benchmarking study to estimate the cost of providing interconnection services for mobile and fixed line services, mobile and broadband Internet services, SMS and mobile money transactions in Sierra Leone;
- xi. analyze the results of cost models and benchmarking to make appropriate recommendations on the level and structure of interconnect and other tariffs as well surcharges for consideration by the Commission;
- xii. organize stakeholder's consultation workshop in collaboration with the Ministry of Information and Communications, NATCOM and Service Providers to present and validate the findings and recommendations for further development and implementation of the cost models for the telecommunications market;
- xiii. produce a user guide/manual for the cost model files developed, setting out a step by step guide to these files, including an overview of the main model flows, where to locate any input data and modelling results, and how to undertake the sensitivity analysis. For knowledge transfer, the consulting firm should propose the training plan to be conducted in Sierra Leone; and
- xiv. prepare and present the final report of the study containing a summary of the entire assignment, results and recommendations including a package of all data, materials and documents produced.

#### **4. Qualifications and Experience**

The successful consulting firm shall be required to undertake the assignment as a multi- disciplinary team of at least four (4) personnel, preferably comprising a Lead Consultant, two (2) Key Experts and a Local Consultant. Having key experts from the ECOWAS sub-region on the team would be an added advantage.

The Lead Consultant shall have the following qualifications and experience:

- minimum of Master's degree in Electrical and Electronic Engineering, Telecommunications Engineering, Information and Communications

Technology (ICT) or Regulatory Administration from a recognized institution;

- extensive experience in the telecommunications industry for not less than 15 years, 10 years of which shall be working as team leader in multiple projects;
- experience in evaluating telecommunications investments in developing countries;
- proven interconnection and tariff regulations experience recognized by at least one Regulatory Authority;
- experience in similar assignment in at least one developing country in Africa; and
- fully conversant and knowledgeable in the development of telecommunications cost models, familiar with convergence of technologies and modern next-generation access technologies and have good communication, written, presenting and graphical skills.

The two Key Experts of the team shall have the following qualifications and experience:

- minimum of Master's degree in Electrical and Electronic Engineering, Telecommunications Engineering, ICT, Economics or Finance from a recognized institution;
- experience in the telecommunications industry for not less than 7 years working in similar projects;
- have technical skills and competencies in the telecommunications industry, particularly relating to tariffs and interconnection;
- demonstrable forecasting skills and benchmarking in socio-economic and technologies, economics and finance as well as aptitude to create trend analysis;
- conversant with mobile and fiber optic cable network elements, operations and the development of telecommunications businesses;
- experience in a related assignment in at least one country with a similar economy with Sierra Leone; and
- must have good communication, written, presenting and graphical skills.

The Local Consulting firm shall be led by a staff with the following qualifications and experience:

- a higher degree in Economics, Finance or Business Administration with distinction from a recognized institution;
- knowledgeable in regulatory framework regime for not less than 5 years working in similar assignment;
- proven practical display of technical ability in tariff regulations and guidelines;
- demonstrate forecasting skills and benchmarking of technological services, socio-economic and finance trend analysis;
- has proven knowledge in research relating to tax regimes including duty waivers;
- must have engaged in a related assignment in a similar institution within Sierra Leone; and
- possess good communication, written, presenting and graphical skills.

## 5. Deliverables and Timelines

The consulting firm is expected to complete the assignment in **100 man-days** after the commencement of the Contract. The assignment shall commence seven (7) calendar days after the Contract is signed. All deliverables generated from this assignment shall be the sole property of NATCOM.

The Consultant is expected to provide the following deliverables against the prescribed timelines detailed in the table below:

No.	Deliverable	Timeline
1	Inception Report	15 calendar days after commencement of the Contract
2	Data Collection Tool	30 calendar days after commencement of the Contract
3	Costing model software installed on a laptop with applicable user manual	60 calendar days after commencement of the Contract
4	Benchmarking Analysis Report	60 calendar days after commencement of the Contract
5	A Stakeholder Consultation Workshop and Report	70 calendar days after commencement of the Contract
6	Capacity Building	70 calendar days after

		commencement of the Contract
7	Data Collection Tool for market monitoring, updates and extension of the model	80 calendar days after commencement of the Contract
8	Draft Report	90 calendar days after commencement of the Contract
9	Final Report	100 calendar days after commencement of the Contract

## **6. Working Language**

The working language for the consultancy service shall be English.

## **7. Procurement Method**

The procurement method for the selection of the successful consulting firm shall be Quality and Cost Based Selection (QCBS), consistent with the provisions of the National Public Procurement Act 2016 of Sierra Leone.

## **8. Conflict of Interest**

The successful consulting firm shall declare any conflict of interest, especially if any or all of the consultants is/are currently carrying out consultancy work for other stakeholders including licensed operators or service providers in the telecommunications sector in Sierra Leone.

## **9. Confidentiality of Information**

The Consultant will protect the confidentiality of the data or information received to conduct this assignment, and shall sign a confidentiality agreement with NATCOM. No data, information, or deliverables from this assignment will be released to third parties without a written approval of NATCOM. The Consultant shall surrender all data and other materials to the National Telecommunications Commission, and shall not retain any information or materials after closure of the assignment.

## 10. Payment Schedule

The following percentages of the total Contract amount shall be disbursed upon receipt and approval of the deliverables outlined in Section 6 (Deliverables and Timelines) of the terms of reference for this assignment.

No.	Deliverables	Percentage of Payment of Total Contract Amount
1	Inception Report and Data Collection Tools	First payment of Fifteen percent (15%)
2	Cost Model, User Manual & Benchmarking Analysis	Second payment of Twenty-Five percent (25%)
3	Stakeholder's Consultation Report & Delivery of Capacity Building	Third payment of Thirty percent (30%)
4	Final Report	Third payment of Thirty percent (30%)

## 11. Additional Information

The National Telecommunications Commission shall provide office space with Air Conditioner, electricity and Internet connection for the successful consulting firm to facilitate the smooth implementation of the assignment.

## 12. Closing Date and Time

Expression of Interest must be delivered in hard copy or submitted by email to the address below Friday 17<sup>th</sup> May 2021 at 4:00 pm (Sierra Leone time) and must be specifically marked "Expression of Interest for the development of cost models and pricing framework for wholesale and retail telecommunications services and products in Sierra Leone". The EoI letter must include valid telephone number and email address.

**Attention: The Procurement Manager**

**National Telecommunications Commission (NATCOM)**

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