



REPORT OF THE PUBLIC INQUIRY ON THE QUALITY OF SERVICE REGULATIONS AND BUSINESS RULES

1.0 INTRODUCTION

The Nigerian Communications Commission (the Commission) pursuant to its powers under Section 72 of the Nigerian Communications Act 2003 (the Act), commenced the process of reviewing the Quality of Service Regulations (the Regulations). The Commission also developed a draft Business Rules (Business Rules) alongside the amended Regulations.

Based on the Commission's policy of participatory rule-making, the Draft Regulations and Business Rules were published on its website for comments from the general public, particularly its licensees and other stakeholders.

Further to this, the Commission received submissions from MTN Nigeria Communications Plc, IHS Nigeria Limited and other stakeholders.

As required by Section 58 of the Act, a Public Inquiry on the Draft Regulations and Business Rules was scheduled for July 25, 2023 and a Notice of the Public Inquiry was published in the Guardian and Daily Trust Newspapers on Friday, June 30, 2023.

2.0 THE PUBLIC INQUIRY

The Public Inquiry held both physically and virtually as scheduled. It commenced 11:00am and was chaired by the Executive Vice Chairman, Professor Umar Garba Danbatta FNSE, FRAES, FAEng, FNIEEE, who was represented by the Executive Commissioner, Technical Services (EC-TS), Engr. Ubale Ahmed Maska, with the Executive Commissioner, Stakeholder Management (EC-SM) also in attendance. Attendees at the Public inquiry included Staff of the Commission, representatives of telecommunications companies and other interested stakeholders.

The EC-TS welcomed everyone present, noting that the event was key to the rule-making process of the Commission. He urged the participants to apply themselves maximally to the event for the benefit of the industry.

Engr. Edoyemi Ogoh (*Deputy Director, Technical Standards and Network Integrity Department*) gave an overview of the amendments made in the Draft Regulations and also the provisions of the Business Rules. Engr. Auwalu Abdullahi (*Principal Manager, Technical Standards and Network Integrity Department*) made a presentation on the comments received prior to the Public Inquiry.

A. GENERAL OVERVIEW OF THE DRAFT REGULATIONS AND BUSINESS RULES

The Regulations provided for the minimum quality and standards of service that Licensees must adhere to, the tasks Licensees are required to perform for accurate measurements, reporting and record keeping of quality of service parameters as well as sanctions for breaches.

The Business Rules provides for standards for measuring the quality of service in the communications industry.

B. REVIEW OF COMMENTS RECEIVED BEFORE THE PUBLIC INQUIRY

1. Enextgen Wireless Limited

1.1 Comment

Enextgen Wirelesss Limited (Enextgen) stated that the term “Broadband Internet Access Service” means an Internet Access Service that is not a voice band Internet Access Service; and that such term “Broadband” should imply throughput and latency attainable only in 4G LTE and beyond, or at least a minimum throughput.

Response

The comments are noted and will be considered in the further review of the Regulations.

1.2 **Comment**

Enextgen also stated that “BSC” meaning as defined in Schedule 2 should be defined as Terms that acknowledge the prevalence of newer and expanding technologies like 4G LTE and ongoing deployment of 5G NR should be included and not limited to “BSC” and “BTS”.

Response

The comments are noted and will be considered in the further review of the Regulations.

1.3 **Comment**

Enextgen requested that the Commission guide the industry on how to measure quality of service of mobile broadband networks.

Response

Measurement methodology for throughput and latency and other KPIs and targets for 3G, 4G networks and ISPs provided in the Draft QoS Business Rules 2023 was agreed with the Industry during the various engagements at the QoS Industry Working Group (IWG) meetings. The method of measure are specified in the updated Business Rules.

2. **MTN Nigeria Communications Plc.**

2.1 **Comment**

Part 2: Measurement Reporting and Record Keeping

MTN stated that the Commission should outline any other factor that may be used to carry out this assessment. This is due to the need for regulatory certainty which is one of the core principles of rulemaking.

Response

The comments are noted and will be considered in the further review of the Regulations.

2.2 **Comment**

MTN proposed that the Commission should go beyond the issuance of these Guidelines to find a lasting solution to the technical challenges in Fibre Deployment. MTN opined that the Commission should continue to advocate for the declaration of telecommunications/fibre infrastructure as Critical National Infrastructure (CNI) and also partner with law enforcement agencies and judicial authorities to consistently enforce disciplinary and legal actions

against persons who engage in wilful and/or negligent destruction of fibre infrastructure during road constructions.

Response

These are policy issues that the Commission is already handling.

2.3 Comment

Business Rules S.19 The Business Rules made or issued by the Commission pursuant to these Regulations shall apply as part and parcel of these Regulations. MTN urged the Commission to note the following fiscal challenges that have impaired fibre deployment:

- i. Regulation and implementation of a cost-based Lease Pricing Model.
- ii. Harmonization and Modernisation of the Framework for Infrastructure-related Taxes and Duties.

MTN recommended that the principles for the amendment of Regulations should apply to the review of the Business Rules. In this regard, at the minimum, a public hearing should be conducted before the review of the Business Rules. MTN also added that there is a need for regulatory certainty with regard to its standards. The introduction of a provision along these lines could create room for unilateral actions on the part of the Commission which could result in regulatory uncertainty.

Response

The objective of Business Rules is to avoid unnecessary delays, bottlenecks and bureaucracies required for changing regulations to ensure continual alignment of QoS KPIs and targets to industry and technology developments. The review control process provided in the Business Rules is sufficient.

2.4 Comments

Amendment and Publication of the Business Rules.

MTN recommended that the Commission should introduce a section for change of control in the Business Rules. The principles for the amendment of Regulations should apply to the review of the Business Rules. In this regard, at the minimum, a public hearing should be conducted prior to the review of the Business Rules.

Response

The comments are noted and will be considered in the further review of the Regulations.

2.5 Comments

S.2.1.12- Credit deducted but not reflected in the receiving account in case of virtual top-up.

MTN stated that this KPI excludes virtual top – ups from banks and alternative channels. Licensees have limited control over top-ups for such channels as such resolution takes more time.

Response

The comments are noted and will be considered in the further review of the Regulations.

2.6 Comments

S.2.3.36 - 1/30th of average monthly spending should be allowed for out-going calls to be used by the customer within the dispute resolution time.

MTN recommended that the subscriber should have access to the call center throughout the dispute period and rather than outgoing calls, the subscriber shall only have access to outgoing SMS. MTN also added that in the event that the Commission retains the clause, the licensee should be allowed to claw back the value from the subscriber if the dispute is resolved in the favour of the licensee.

Response

The comments are noted and will be considered in the further review of the Regulations.

2.7 Comments

S.2.3.36- De-activation of a subscriber's line.

MTN recommended that the Commission should adopt a 3 month period of no Revenue Generating Event (RGE) and a further 3 months period before the subscriber's line is deactivated. The position supports operational efficiency in the management of scarce numbering resources and in accordance with global practices.

Response

The comments are noted and will be considered in the further review of the Regulations.

2.8 Comments

S.3.1- In exceptional cases where live agents may be unavailable within 5 minutes to answer the call, a customer should be given an option to hanging up to be called back within a maximum time of 30 minutes.

MTN recommended that there should be an announcement on alternative support channels played to the customer. This is to avoid contact at unconventional times.

Response

The comments are noted and will be considered in the further review of the Regulations.

2.9 Comments

S.3.2- Waiting time to be physically attended to by relevant staff at customer care centers should be 30 minutes. The Licensee shall provide means of measuring the waiting time, starting from time of arrival at the premises.

MTN recommended that the Commission should consider measurement of average handling time rather than wait time in premises. This will require a significant level of investment to install queue management system in all Care Centres to measure waiting.

Response

The comments are noted and will be considered in the further review of the Regulations.

2.10 Comments

S.5- General Key Performance Indicators (KPI)'s

MTN recommended that the Commission should conduct an impact assessment of the KPI's and to reflect only relevant KPI's in the finalized QoS Regulations. The Business Rules should only provide for the KPI's which the Commission, further to consultation with the industry has deemed fit for measurement.

Response

The comments are noted and will be considered in the further review of the Regulations.

2.11 Comments

Regional BTS/NODE Monitoring of QoS Parameters- To ensure compliance with the QoS Regulations, 2023 and for proper monitoring on a State-by-State basis, the Commission has categorised the various States into 3 designated State priority groups. MTN stated that the business rules should contain a provision that provides conditions for exclusions and concessions in states categorized as Priority 1 and 2 that are affected by insecurity and other challenges.

3.0 ATC Nigeria Wireless Infrastructure Limited

3.1 Comment

ATC recommended that the Commission create a separate and less stringent availability Key Performance Indices (KPI's) for rural sites across all states and the FCT as provided below:

Location update success rate should be 96% for rural set- up.

BH Traffic Channel (TCH) Congestion (to be measured at BSC level) should be 3% for rural areas.

BH TCH Assignment success rate should be 98% for rural areas.

BH SDCCCH drop rate should be 1% for rural setup.

Performance Network Node- BH Traffic Channel (TCH) Congestion (measured at Cell level) should be 2%.

Response

The comments are noted and will be considered in the further review of the Regulations.

4.0 GSMA

4.1 Comment

As part of the approach to modernize QoS regulations, GSMA recommends that Regulation 14 of the Regulations be reviewed as follows;

“Where a Licensee contravenes any of the parameters set out in these Regulations, the Commission may take one or more of the following enforcement measures (c) Impose a fine on the contravening Licensee, as may be determined under Schedule 3 to these Regulations, and mandate the contravening Licensee to reinvest part or all of the imposed fine into rectifying the contravention.”

GSMA also recommended that the Commission only consider imposing fines where non-compliance has been determined after an assessment of efforts to reinvest originally-imposed fines against metrics that were clearly agreed and defined between the Commission and the contravening licensee.

Furthermore, by implementing a methodology that combines reporting obligations, auditing and verification processes, stakeholder engagement, penalties for non-compliance, and continuous monitoring and evaluation, the Commission can ensure the proper utilization of fines for network reinvestment

which will further promote transparency, accountability, and effective oversight, ultimately leading to improved network quality and enhanced consumer satisfaction.

Response

The comments are noted and will be considered in the further review of the Regulations.

4.2 Comment

GSMA recommended that the Commission should consider the opportunity to modernise its QoS regulation practices by collaborating with the Industry Working Group on QoS to determine a concise list of practical and achievable KPIs that align with ITU standards (in terms of parameters, definitions and formulae) and, most importantly, are understandable to consumers to allow for meaningful comparisons of available services.

Response

The KPIs, formulae and targets were determined at the the QoS Industry Working Group and are in line with ITU-T standards and in line with local realities.

4.3 Comment

GSMA recommended that time periods stipulated for the resolution of QoS issues should be no less than 90 days, in view of the peculiarities associated with the Nigerian operating environment and how these peculiarities impact on the logistics associated with rectifying QoS issues on the field. This approach can result in more effective and sustainable resolutions to QoS issues.

Response

This recommendation is not accepted by the Commission. The timelines specified for resolution of faults is adequate and had been put through the standard industry engagement process. A 3 month period for QoS impacting issues to be resolved is too long.

4.4 Comment

GSMA recommended that the section on the review and amendment of the Business Rules be amended as follows;

“These Business Rules may be reviewed, modified or updated by the Commission from time-to-time, in line with the rule-making and regulatory review processes

stipulated in sections 71 and 72 of the Nigerian Commutations Act, 2003, and such amendment shall be published on the Commission's website.”

Response

The Commission notes these comments and states that the review of the Business Rules will always reflect its participatory rule making approach. It should further be noted that its review will be more flexible than that of a Regulations and will take stakeholders into consideration.

5.0 IHS Nigeria Limited

IHS have requested for the reduction of the KPIs for (Mean time to repair and Power Availability) when measuring sites that are located in the rural/semi urban areas of the country, taking into consideration the omnipresent nature of the challenges that mitigate against the achievement of the KPIs. IHS recommended a reduction in the KPIs as follows:

Proposed KPI

Parameters	Urban Areas	Proposed rural/semi-urban
Power Availability	>99.5%	>95%
Mean time to repair	< 4 hours	< 10 hours

Response

The comments are noted and will be considered in the further review of the Regulations.

6.0 Global Independent Connect Limited (GICL)

GICL recommended that rural network sites be specially treated by the Commission and exempted from the application of the existing network KPIs for the purpose of performance measurement. GICL opined that this will be a major incentive for continuing and accelerated deployment across yet unconnected communities in Nigeria. In this regard they proposed the KPIs as follows:

KPI	NCC and MNO Current Requirement for Urban Cellular	Proposed KPI for Rural Telephony
2 G Availability	$\geq 98\%$	$\geq 90\%$
2G Call Drop Rate	$\leq 1\%$	$\leq 4\%$
2G Call Setup Success Rate	$\geq 98\%$	$\geq 90\%$
2G HOSR	$\geq 98\%$	N/A
2G SDCCH Blocking	$\leq 0.2\%$	$\leq 2\%$
2G TCH (BH) Blocking	$\leq 2\%$	$\leq 5\%$
3G Availability	$\geq 98\%$	$\geq 90\%$
3G Call Drop Rate (CS)	$\leq 2\%$	$< 3\%$
3G Call Drop Rate (PS)	$\leq 2\%$	$< 3\%$
3G Call Setup Success Rate (CS)	$\geq 97.5\%$	$\geq 90\%$
3G Call Setup Success Rate (PS)	$\geq 97.5\%$	$\geq 95\%$
3G Soft Handover Success Rate (SHO)	$\geq 98\%$	N/A
3G HSDPA throughput per user	2Mbps	500 kbps

They also proposed the classification below to ensure that KPIs are applied only in unique circumstances and conditions, with the allowance to evolve the rural KPIs to the current Commission's KPI once these peculiar circumstances are no longer applicable to a site.

Site category	Access to site	Typical Spectrum Layers	Typical Neighbour relation	Backhaul	Power system
Rural	Difficult to access	1	0	Satellite or E-Relay	Solar
Sub-Urban	Easy access	< 3	< 2	Microwave	Hybrid
Urban	Easy access	> 3	> 2	Microwave or Fiber optic	Grid and Generator

Response

The comments are noted and will be considered in the further review of the Regulations.

C. REVIEW OF COMMENTS RECEIVED AT THE PUBLIC INQUIRY

1. IHS Nigeria Limited

Comment

- 1.1 The mention of reduction/lowering the Key Performance Indicators (KPI). IHS suggested lowering of the KPI to 95%.

Response

IHS was requested to forward its comments in writing to the Commission.

2.0 MTN Communications PLC

1.2 Comment

MTN stated that there are various factors that determine a hub site which are the physical transmission part, the natural cluster of human settlement etc. MTN also appealed to the Commission to reconsider the reduction of the KPIs.

Response

The comments are noted and will be considered in the further review of the Regulations.

3.0 Global Independent Connect Limited

Comment

- 3.1 Global Independent noted that high KPI requirements are hard to obtain especially where such requirements are dependent on nature further noting the need to reduce the KPI especially both the Rural and Urban KPI.

Response

The comment is noted and will be considered in the further review of the Regulations.

D. REVIEW OF COMMENTS RECEIVED AFTER THE PUBLIC INQUIRY

1. MTN Nigeria Communications Plc

1.1 Comment

Regulation 3 (under the Network Performance KPI), MTN recommended that the BH CST be set at ≤ 10 seconds.

Response

The comment is noted and will be considered in the further review of the Regulations.

1.2 Comment

Regulation 4 - Location update success rate, MTN recommends that the target for location update success rate be set at $\geq 97\%$.

Response

The comment is noted and will be considered in the further review of the Regulations.

1.3 Comment

Regulation 5- Paging success rate- MTN recommends that the target for Paging Success Rate be set as prescribed below: $\leq 84\%$ - Rural/Highway $\leq 96\%$ - Suburban $\leq 88\%$ - Urban

Response

The comment is noted and will be considered in the further review of the Regulations.

1.4 Comment

Regulation 8- BH TCH Assignment success rate- MTN recommends that the TCH Assignment Success Rate be set at $\geq 97.5\%$.

Response

The comment is noted and will be considered in the further review of the Regulations.

1.5 **Comment**
Regulation 15- BH processor loading BH Erlang Utilization/BSc- MTN recommends that the BH Processor load/Erlang Utilization per BSC be set at $\leq 85\%$.

Response

The comment is noted and will be considered in the further review of the Regulations.

1.6 **Comment**
Regulation 19- Resolution time of BTS faults impacting on traffic- MTN recommends that a resolution time be set as prescribed as follows: Rural Sites ≤ 6 hours Urban Sites ≤ 3 hours

Response

The comment is noted and will be considered in the further review of the Regulations.

1.7 **Comment**
Regulation 20 - Resolution time of BSC faults impacting on traffic- MTN recommends that the Commission considers revising the Resolution time of BSC faults to ≤ 60 minutes.

Response

The comment is noted and will be considered in the further review of the Regulations.

1.8 **Comment**
Regulation 25 - Service coverage received signal level- MTN recommends that the Commission considers revising the Service coverage received signal level to: Out-door > -85 dBm In-vehicle > -90 dBm In-door > -95 dBm

Response

The comment is noted and will be considered in the further review of the Regulations.

1.9 **Comment**
Regulation 26 - ASR IN/OUT (for on-net and off-net) - MTN recommends that the ASR be revised to $\geq 35\%$.

Response

The comment is noted and will be considered in the further review of the Regulations.

1.10 **Comment**

Regulation 28 - Conversational voice quality on ON-NET calls – MTN recommends the Commission adopt a MOS > 3.0 on the MOS scale and that the SQI counter be expunged as most OEMs no longer implement them

Response

The comment is noted and will be considered in the further review of the Regulations.

1.11 **Comment**

Regulation 29 - Speech encoding – MTN urges the Commission to revise the HR utilization at a target of $\leq 50\%$.

Response

The comment is noted and will be considered in the further review of the Regulations.

1.12 **Comment**

Regulation 4.3 - Transmission Path

Paragraph 1 - Maximum time for transmission/physical link outage- MTN recommends that the Commission considers a ≤ 2 Hour restoration for normal MICROWAVE equipment failures and a ≤ 4 Hour restoration for FIBRE.

Response

The comment is noted and will be considered in the further review of the Regulations.

1.13 **Comment**

Paragraph 2 - Percentage of microwave links with space as well as frequency diversity – MTN opined as follows: that a $\geq 60\%$ Microwave Hops of >18km hop-length or going across large bodies of water and must have Space diversity configuration and a $\geq 60\%$ Frequency Diversity for Non-IP microwave links comprising ≥ 4 parallel Channels on the same Hop.

Response

The comment is noted and will be considered in the further review of the Regulations.

1.14 **Comment**

Paragraph 3- BH congestion on trucks- MTN recommends a < 20% target for Microwave Backhaul trunks and a < 5% target for Fibre Backhaul trunks.

Response

The comment is noted and will be considered in the further review of the Regulations.

1.15 **Comment**

Paragraph 4- Redundancy on transmission links- MTN recommends that a 100% redundancy should apply to Fibre Backbone and Metro Fibre (Inter-State/Inter-City/Metropolitan Metro Fibre Rings).

Response

The comment is noted and will be considered in the further review of the Regulations.

1.16 **Comment**

Paragraph 5- Compression ratio on transmission system – MTN recommends that this KPI be removed for lack of relevance to network optimization

Response

The comment is noted and will be considered in the further review of the Regulations.

1.17 **Comment**

Paragraph 9- Availability - MTN recommends that the Commission revises the target as follows: · Adopt a $\geq 99.5\%$ Availability for Microwave Links and Adopt a $\geq 99.5\%$ Services Level Availability for Fibre.

Response

The comment is noted and will be considered in the further review of the Regulations.

1.18 **Comment**

Paragraph 13 - Packet Loss- MTN recommends a target of $\leq 3.5\%$ for packet loss.

Response

The comment is noted and will be considered in the further review of the Regulations.

1.19 Comments on Additional KPI

Paragraph 1- Latency – MTN recommends a target of ≤ 10 ms.

Response

The comment is noted and will be considered in the further review of the Regulations.

1.20 Comment

Paragraph 5- Link Utilisation - MTN recommends that the link utilization be addressed by other service KPIs.

Response

The comment is noted and will be considered in the further review of the Regulations.

1.21 Comments on the General KPIs

Paragraph 2 - Percentage NCC QoE applets registered in QoS Infrastructure Tool Server - MTN recommends that the Commission provides additional clarity on this KPI and the specified target.

Response

The comment is noted and will be considered in the further review of the Regulations.

1.22 Comments on Threshold for 3G Networks

Paragraphs 1, 2, 3, 4 & 9- MTN opined that the Commission should provide guidance on which of the targets are to be adopted.

Response

The comment is noted and will be considered in the further review of the Regulations.

1.23 Comment

Paragraph 11- Paging Success Rate – MTN recommends the below KPIs: $\leq 84\%$ for Rural/Highway $\leq 96\%$ for Suburban $\leq 88\%$ for Urban

Response

The comment is noted and will be considered in the further review of the Regulations.

1.24 **Comment**

Paragraph 2 – Call set-up success rates- MTN recommends the target for BH CST be revised to ≤ 10 Seconds.

Response

The comment is noted and will be considered in the further review of the Regulations.

1.25 **Comments on Threshold for 4G Networks**

Paragraph 2 - CSFB CST- MTN recommends that the target for CSFB CST be revised to ≤ 10 Sec.

Response

The comment is noted and will be considered in the further review of the Regulations.

1.26 **Comment**

Paragraph 7 - E – UTRAN Downlink User Throughput (Mbps) - MTN wishes to state its satisfaction with the target of 3 -5 Mbps (Glide path) and recommends that the measurement method be the same as that of 3G and not by OSS Statistics.

Response

The comment is noted and will be considered in the further review of the Regulations.

1.27 **Comments on Data Services**

Paragraph 3 – MTN recommend a GPRS Attach Success rate be revised to $\geq 96\%$.

Response

The comment is noted and will be considered in the further review of the Regulations.

1.28 **Comments on Additional Threshold for 3G Networks**

Paragraph 16 – MTN recommends the following KPIs for each classification: · Out-door > -85 dBm · In-vehicle > -90 dBm · In-door > -95 dBm.

Response

The comment is noted and will be considered in the further review of the Regulations.

1.29 Comment

Paragraph 17 – EC/IO- MTN recommends that the Ec/Io target be revised to ≤ -12 dbm.

Response

The comment is noted and will be considered in the further review of the Regulations.

1.30 Comment

Paragraph 5 – Link Utilisation – MTN recommends that the target be revised to $\leq 90\%$.

Response

The comment is noted and will be considered in the further review of the Regulations.

2. AIRTEL NETWORKS LIMITED**2.1 Comment**

Regulation 9(2) - Timing of Publication – The publication of QoS KPI measurements should be restricted to NCC's website as per current industry practice and with regards to planned publication of Network Operators QoS KPIs performance evaluation in the National Newspapers, Airtel recommends that in accordance with ongoing discussions at the Industry Working Group on Quality of Service (IWGQoS), this should be subject to the Ad-hoc Committee's completion of its assignment on same.

Response

The comment is noted and will be considered in the further review of the Regulations.

2.2 Comment

Regulation 14(c) - Enforcement Measures - The imposition of monetary penalty has not proven to be an effective way of resolving Quality of Service (QoS) degradation in the industry. Airtel hereby recommends that the Commission engages and identifies the cause of degradation in QoS; that it agrees with the

affected Network on mandatory network investment to be undertaken to address the QoS concerns within a stipulated timeframe; and that it verifies the implementation/completion of the agreed network enhancement project.

Response

The comment is noted and will be considered in the further review of the Regulations.

2.3 Comment on QoS Business Rules

Regulation 4 - Amendment and Publication of the Business Rules - Airtel is open to periodic review of the Business Rules, but such modifications/revisions should be subject to the rule making procedure as stipulated in S.71, Nigerian Communications Act, 2003.

Response

The comment is noted and will be considered in the further review of the Regulations.

2.4 Comment

Regulation 28 - Complaints call ID - This is inadvertently duplicated and should be deleted.

Response

The comment is noted and will be considered in the further review of the Regulations.

2.5 Comment

Account Complaint KPIs

Account Complaint	KPI TARGET RESOLUTION TIME	Comment
Charging for line rental at incorrect rate	< 5 days	Clarity required- does this mean the monthly rental is inaccurate OR the rate billed?
Charging for calls/SMS/MMS messages at incorrect.	< 1 Hour	L3 escalation required and 24hrs is recommended for same.
	< 24 Hours	Clarity required- for Roaming there is a 90day SLA with

Rate or more than once for the same call/SMS		roaming partners to present bills.
Charging for services not rendered	< 24Hours	1st Level - 24hrs 2nd Level – 12hrs
Charging for uncompleted/ unsuccessful calls/SMS, or charging for access not rendered	< 1 Hour	1st Level – 24hrs 2nd Level – 12hr
Charging for calls beyond their duration	< 24Hour	1st Level – 24hrs 2nd Level - 12hrs
Failed attempts to load recharge payments.	< 3 Hours for network related faults (NB. Except for exceptional circumstances that have been made public, each time within 2 hours of occurrence of the failure in the affected area. Each failure in this category that has taken longer than 48 hours to resolve must formally and specifically be communicated to the commission. < 1 Hour for software related faults	Clarity required-There may be third-party financial platforms involved in the transaction, and these are not within the control of the MNOs.
System failure at Contact Centers inhibiting bill payments.	< 30 Minutes	Clarity required from the Commission.
Failed attempts to check/ determine	< 2 Hours	1st level – 24hrs 2nd level – 12hrs

the account balance		
Losing credited amounts from the account.	< 1 Hour	1st level – 24hrs 2nd level – 12hrs
Miscellaneous complaint resolution time	< 48 Hours	Clarification is required from the Commission what constitutes miscellaneous complaint.
Inability to change tariff plan for qualified subscriber	< 24 Hours	1st level 24hrs 2nd level 12hrs
Credit deducted but not reflected in the receiving account in case of virtual top-up	< 1 Hour	1st level 24hrs 2nd level 12hrs
Invalid system response for genuine service request.	< 2 Hour	Clarification is required from the NCC.
Unjustified call-barring/ restriction (local, national or international.	< 2 Hour	1st level -4hrs for feedback and 72 hrs for resolution. 2nd level – 2hrs for feedback and 48hrs for resolution.
Inability to activate offered service.	< 2 Hour	1st level 2hrs 2nd level 1hr
Inability to access offered service by a qualified customer on an enable device.	< 1 Hour	Clarification is required from the NCC.
Inability to load credit from an over-scratched card.	< 1 Hour	1st level – 4hrs 2nd level – 2hrs
Request for blocking of reported lost/stolen SIM	< 30 minutes - Blocking allowed, and further usage should not be chargeable to	Clarification is required from the NCC

card which subscriber ownership has been confirmed.	the consumer from the moment of filing the report.	
Request for PUK code.	Should be met within 3 Hours	This should be modified to “should be met within 3 Hours, subject to successful completion of required validation”.
Inability to send or receive SMS (local or international)	< 1 Hour	1st level - 4hrs for feedback and 24hrs for resolution. 2nd level - 2hrs for feedback and 12hrs for resolution.
Inability to send or receive blackberry Messages	< 2 Hour	Not applicable - this should be deleted as Blackberry is no longer operational.
Inability to retrieve or send voice SMS	< 1 Hour	Not applicable
Unsolicited messages	The service provider must provide an option for the subscriber to “Opt out” of receiving such messages in case of messages originating from the service provider or its third-party business partners. The service provider should make a reasonable effort to identify and block or filter bulk, unsolicited and offensive messages from other sources.	Clarification is required from the Commission. Does this nullify the *2442# option?
Time for recharge/bill payments to reflect on the account.	< 10 seconds recharge from mobile < minutes recharge from Bank Automated Teller Machine (ATM) < 1 Hour over the counter	Clarification is required from the Commission. Third party platforms may be involved in the transactions.

	< 10 Minutes after receipt of payment confirmation, for internet-based transaction.	
Number of complaints upheld Per day related to: (a) wrongly cleared balance (b) wrong I VS/ System response message (c) failed attempts to determine the account balance (d) failure to provide agreed content	< 10	10 per 100/per 1,000/ or per 1,000,000 customers
Number of complaints per month related to incorrect settings by a licensee leading to inhibition of two-way communication while roaming internationally.	< 10	Clarification is required from the Commission
Number of complaints per day related to any of the following: a) One-way/two-way loss of audio. b) Cross-talk Call misdirection to untended number. c) Voice quality.	< 50 per day	10 per 100/per 1,000/ or per 1,000,000 customers

Number of complaints per day in respect of Network-related blocking of incoming calls	< 5	Clarification is required from the Commission
Number of complaints per day related to inability to meet SMS/MMS end-to-end delivery time threshold	< 10	Clarification is required from the Commission
Voice-mail related complaints per day	< 2	Clarification is required from the Commission,
Acknowledgment of delivery of all SMS/MMS/IMS messages sent	= 100% unless deactivated by Subscriber.	Clarity required- is this the device feature?
Disconnection resolution time a) Post-Paid	b) On reaching 100% of credit limit a constant IVR notice of credit expiry remains ON for the next 1 week, during which the Operator is at liberty to allow/ disallow outgoing calls until debt is settled.... c) If there is dispute, resolution time < 24 Hours 1/30th of average monthly spending should be allowed for out-going calls to be used by the customer within the dispute resolution time.	Clarity required – 100% credit limit should trigger outgoing calls not allowed to avert dispute. Clarity required
Pre-Paid	A subscriber with a proof of good reason	Clarity required – line parking should be subject to payment of

	for absence is at liberty to request for line-parking	fee, to at least, cover annual number renewal obligation payable to the NCC.
Internet Service	To be restored within 2 hours except for service lawfully disconnected	Clarity required
Number of complaints received per day by the operator/NCC's consumer Affairs Bureau with respect to the Operator's inability to meet the afore-stated complaints	< 10/1 million subs <10 for operators with < 1million subs	Clarity required
Credit run-out alert whilst on a call	A single short-beep to the call initiator at: <ul style="list-style-type: none"> • 2 Minutes, and at • 30 seconds to termination of the ongoing call. Low credit announcement to be played while the call is being originated in a situation where the call cannot last up to 30 secs.	Clarity required – network reconfiguration and investments may be required to achieve these KPIs.
Credit loading and balance checks	Free of charge; operators must provide options such as by text and/or voice or other means that will support physically challenged persons	Clarity required

Handset/Recipient Rejected Calls	IVR must be in place to state that the called number does not accept calls from the calling number	Clarity required
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Response

The comment is noted and will be considered in the further review of the Regulations.

2.6 Comment

Customer Care Services KPIs – Call Centre

Call Handling	<p>Maximum number of rings before a call is answered by either an IVR machine or a live agent should not be more than five (5) ; and</p> <p>Where a customer decides to speak to a live agent, the maximum duration allowable on the queue/IVR should be 5 minutes before answer</p> <p>In exceptional cases where live agent may be unavailable within 5 minutes to answer the call, a customer should be given an option to hanging up to be called back within a maximum time of 30 minutes</p>	Clarity required
Customer care lines that can be accessible through other networks	> 1 free access number and if 1 number then it should accommodate multiple calls at the same time	Clarity required – this is a variation of the subsisting regime.

Response

The comment is noted and will be considered in the further review of the Regulations.

2.7 Comment

Customer Care Services KPIs - Customer Care Centre

Waiting time to be physically attended to by relevant staff at customer care centers	< 30 minutes. The Licensee shall provide means of measuring the waiting time, starting from time of arrival at the premises.	Clarity required – the waiting time measurement should commence from when the subscriber enters the shop. Airtel cannot coerce a subscriber to enter the shop immediately when s/he arrives at our premises.
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Response

The comment is noted and will be considered in the further review of the Regulations.

2.8 Comment

Network Performance KPIs- Network Node Performance

Paging success rate	> 98% of attempts	>=90% of attempts are proposed for 2G. Rural & Urban PSR separation can be explored
HLR and BH VLR, capacity utilization	< 70%	< 80% is the recommended benchmark for expansion while 70% can be taken as a “soft limit” to explore optimization actions.
BH BSC, MSC capacity utilization	< 60%	< 80% (BHCA) is the recommended benchmark for MSC expansion, provided the CP load < 70%. MSC Average CP Load < 70% is recommended as a benchmark.
BH processor loading/BH Erlang Utilization/BSc	< 60%	</=80% is proposed for BSCs

No. of interconnect points per 3 contiguous covered states (standalone or shared)	> 1	This should be amenable to each MNO's network dimensioning and dynamics
Upgrade/Integration/Cut-over related errors Life-time of any : (a) CIC mismatch, (b) Global Cell Identity- error, (c) Improper neighbouring-cell definition Life –time of Error in : (a) Neighbouring MSC definition (b) Roaming number of New MSC (c) Exchange parameter settings, including SS-Tone sending (d) IN trigger table definition	Life-time of error in < 1 hour or 12 hrs if it justified to the satisfaction of the Commission.	Airtel proposes Life-time of error in < 6 hours or 24 hrs if it justified to the satisfaction of the Commission.
Resolution time of BTS faults impacting on traffic	< 2.5 hrs Rural < 1.5hrs Urban Exceptional circumstances such as late night failures in difficult locations must be announced, via electronic media covering such location, within 2hrs	Under Airtel review - feedback would be provided
Resolution time of MSC faults impacting on traffic	< 10 Min and/or > 99.99% availability	This should be at least <120min. subject to further discussion.
MSC/VLR (MSS) System Availability (monthly)	> 99.99% of (720Hrs)	99.95% proposed
MSC/VLR (MSS) System Down time (monthly)	Ø 0.01% of (720Hrs)	0.05% proposed
Time to repair other failures that affect traffic	< 1.5 hours	Clarification is required from the NCC.
Service coverage received signal level	Out-door > -65 dBm Top Town >/=-90 dBm, Rural >/=-95 dBm Proposed	In-door > -70 dBm In-vehicle > -70 dBm In-door & InVehicle: Top Town

		>/=- 95 dBm, Rural >/=- 95dBm Proposed
ASR IN/OUT (for on-net and off-net)	Should be equal, and > 50%. Any variation which in the opinion of the commission is significant may lead to fines. Licensees engaged in call-gapping will be individually or collectively fined in accordance with schedule 3 to these regulations. Misleading ring back-tone is regarded as breach.	ASR IN & OUT communicated target from the last POI KPI harmonization exercise is 35%. Though, with a proposed gliding path to improve to 40% with (6 to 12 months). To be further discussed with the Commission.
Signalling (SS7) utilization	< 40% HSL ; < 30% NBL	Not applicable. Links migrated to SIP & SIGTRAN
Signalling (SS7) Link Availability	> 99.99%	Not applicable. Links migrated to SIP & SIGTRAN
Link Set Unavailability	< 0.01%	Not applicable. Links migrated to SIP & SIGTRAN
Conversational voice quality on ON-NET calls	MOS > 3.6 on the MOS scale. SQI > 26	This is acceptable from Drive test Under review, to be discussed with the Commission.
BH SMS delivery success rate for enabled-handsets that are in working order, fit for purpose, ON, and in the service area, assuming sufficient account balance.	> 99% of attempts	This is acceptable for ON-NET.
Minimum time for storage of SMS/MMS before deletion by the operator i.e for SMS/MMS that the	30	Further clarification is required. Airtel recommends between 24 to 48 hours minimum

sent to mobile stations that cannot be reached		storage time before deletion.
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Response

The comment is noted and will be considered in the further review of the Regulations.

2.9 Comment

Transmission Path Performance

Maximum time for transmission/physical link outage	< 2 Hours	<p>Fibre: Proposal - critical outages to be set at 2hrs for Metro and 3hrs for Intercity. Airtel further recommends this be broken down into categorization bands (Critical, Major, and minor) with each having different targets. Exemptions should also be given for construction damage, vandalism, and insecure segments.</p> <p>MW: 3hrs is suggested whilst exemption consideration can be given for Access, interference, and faulty hardware related issues</p>
Percentage of microwave links with space as well as frequency diversity	> 60%	<p>Space Diversity: Considering there are specific frequency bands (6GHZ, 7GHZ & 8GHZ) that are majorly used to attain links with long path length(=>25km) requiring Space diversity, Airtel suggests KPI speaks clearly to Path Length with a threshold % of MW links in</p>

		that category required to have Space Diversity implemented.
BH congestion on trunks	< 0.2%	<p>Considering how long equipment ordering, Manufacturing and deployment takes (4-6months) 0.2% may be a stretched, as these are also dependent on CAPEX/Forex availability.</p> <p>10% may be a more realistic target for starters. However, Support may be required from NCC to grant temporary approval for 56MHZ concatenation on other frequency bands outside 18GHZ & 23GHZ. These temporary approvals may have a life span of 6-months to enable the operator to do the required Hardware upgrades as may be applicable.</p>
Redundancy on transmission links	Must conveniently handle 100% of the primary link BH traffic. There should not be redundancy on all critical links	Target not clear. Clarification required.
Error second ration (ESR)	< 0.01 (< 1 x 10 ⁻⁴ for IP Traffic)	Different bit rates exist hence suggested to take an average in setting the threshold or split into the respective bit rates.
Availability	> 99.99%	99.5% proposed (with reference to challenges enumerated above).

Response

The comment is noted and will be considered in the further review of the Regulations.

2.10 Comment

Data Service KPIs and Targets

KPI (LATENCY)	TARGET	COMMENT
Metro Latency	$\leq 10\text{ms}$	Clarity is required on what constitute Metro, Long distance and International
Long Distance Latency	$\leq 40\text{ms}$	Clarity is required on what constitute Metro, Long distance and International
International Latency	$\leq 120\text{ms}$	Clarity is required on what constitute Metro, Long distance and International
PACKET LOSS	$\leq 2\%$	To confirm measurement point
JITTER	$\pm 10\%$ of latency	
Metro Latency	$\pm 1\text{ms}$	Clarity is required on what constitute Metro, Long distance and International
Long Distance Latency	$\pm 4\text{ms}$	Clarity is required on what constitute Metro, Long distance and International
International Latency	$\leq 120\text{ms}$	Clarity is required on what constitute Metro, Long distance and International
THROUGHPUT	\geq Advertised rates	A minimum expected throughput rate shall be stated in all adverts. To be measured via not less than 100 random samples using ftp only or in combination with http, etc. at busy hour.

		To discuss applicability as minimum throughput rates are not committed.
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Response

The comment is noted and will be considered in the further review of the Regulations.

E GENERAL COMMENTS

Mr. Ayiabari Kigbara (Manager, Public Affairs Department) thanked everyone for coming and noted that the session was very informative. He stated that all the issues raised will be considered and consolidated to benefit the Telecommunications Industry.

The Public Inquiry ended at 2:00pm.

Dated this 25th day of July, 2023

**Professor Umar Garba Danbatta, *FNSE, FRAES, FAEng, FNIEEE*
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